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THE CULTIVATOR.

TO IMPROVE THE SOIL AND THE MIND.

□ We should do injustice to our feelings, did we not make a grateful tender of our thanks for the very liberal patronage which has flown in upon us during the last month, as evidenced by the table of receipts inserted on our last page. Although complimentary to ourselves and contributors, we particularly rejoice in it, as affording evidence of the awakened zeal of our farmers for the improvement of the soil and of the mind.

HINTS IN REGARD TO THE CORN CROP.

The experience of the last two years has been sufficient to admonish us, that without due precaution, our crops of Indian corn will not pay for the labor bestowed on the culture; and yet, that where due attention has been paid to soil, manure, seed and harvesting, the return has been bountiful, notwithstanding bad seasons. Having been uniformly successful, in the culture of this crop, we feel justified in repeating some leading directions for its management.

Soil.—It is in vain to attempt to raise Indian corn, in this latitude, in seasons like the two last, upon stiff clays, or upon thin soils of a looser quality reposing upon a clay or hardpan subsoil, or without manuring for the crop; for although the plants will grow, the product will not repay the expense of culture, unless they produce a good crop; and it costs but little more to take care of a good than of a poor crop. The first are not adapted to the crop at any season. On thin soils, having a level surface, the rains settle and remain upon the subsoil; where the roots penetrate for food, and cause a cool temperature in the early part of the season, when the plants stand most in need of warmth. If soils of either of the above kinds are employed, the land should be thrown into ridges, ten or twelve feet broad, in the direction of the slope of the field. But sandy and gravelly lands, and light loams, are decidedly best for corn. The soil must be dry.

Preparation.—A young clover ley, one or two years old, is the best preparation for corn. No grass ley should be cross-ploughed for this crop. If the sod is tender, and the texture of the soil light, the ploughing and harrowing should immediately precede the planting. If the sod is old and tough, the ground should be ploughed the preceding autumn, and harrowed, and harrowed again, on the eve of planting. The furrow slice should not be laid flat, as in this case the water, if in excess, reposes upon the surface, but lapped, so that each furrow forms a sort of under-drain, for the surplus water to pass off. The plough should be set, where the soil will admit of it, to turn a furrow six inches deep and eight or nine wide; the work should be well done, no balks made, and the manure and grass completely buried, though an extra hand should be required. The whole ground should be turned over, that it may be broken and rendered pervious to the tender roots of the young plants. To cut and cover will not answer, as it breaks up and pulverizes but half of the soil.

Manure.—Unfermented stable and yard manure is decidedly preferable, if spread broadcast, as it always should be, and thoroughly buried with the plough. It keeps the soil open, and permeable to heat, air and moisture, the agents of nutrition; it imparts warmth to the soil while undergoing the process of fermentation, and it affords the best food for the crop. This we know is downright heresy

NO. 2—VOL. IV.

to some; but all we ask of these sceptics is, that they will make the experiment, even on half an acre, and credit their own senses in the result. We mean this hint particularly for our friends in Otsego, Oneida and Madison, whose practice of *yarding their dung in summer* has heretofore excited our notice and our wonder. Manure cannot be applied to any crop so profitably as to this, and should always be used upon it.

Variety.—The twelve rowed corn, called the Dutton corn, is the earliest for field culture, that we know of, and we think it the best. We have raised it sixteen years, and the crop has never been injured by the early frosts. It has been widely disseminated, and seed, we presume, may be obtained in almost every county in the northern states.

Preparation of seed.—Our practice is to turn upon the seed the evening before planting, water nearly in a boiling state. This thoroughly saturates the seed, induces an incipient germination, and causes the corn to sprout quick. The next morning we take half a pint of tar for half a bushel of seed, put it into an iron vessel with water, and heat it till the tar is dissolved, and the liquid becomes tar water. It is then turned upon the seed and well stirred. It adheres to the grain, and gives it a thin transparent coating. The tar serves a double purpose; it prevents an excess of moisture entering and rotting the seed, if the weather or soil are cold and wet, and it preserves it from the depredations of birds, &c. which prey upon it. After the seed is taken from the steep, where we never leave it more than 15 hours, as much ground gypsum is mixed with it as will adhere to the kernels. The gypsum prevents the kernels adhering to each other, and favors the after growth of the crop. Ashes or lime may be substituted for gypsum. The seed should be planted while it is moist, and immediately covered. It should not be long exposed to the sun.

Distance in planting.—This must depend upon the variety cultivated, and the richness of the soil. The Dutton is of dwarf growth, and upon well manured land may be planted at three feet each way, or three by two and a half. Southern corn, and some old varieties in the north, grow taller, and require more room. As a certain quantum of food is required to bring each stock to maturity, poorly manured ground cannot feed so many stocks as that which is highly manured.

Quantity of seed and covering.—From using too little seed, and a recklessness in covering it, many corn fields are deficient one half of what ought to grow upon them. We drop six to eight kernels in a hill, and take special care to have it covered only with fine mould. If dung, sods, sticks or stones are placed upon the hill, it partially or wholly prevents the plants coming. If buried too deep, the seed may rot before the soil is warm enough to induce germination; if too shallow, it may lack moisture. These are little matters, though they have a great influence upon the profits of the crop. The extra expense that would be incurred to do these things perfect, might be four quarts of seed and one day's labor to the acre—and the advantages would often be the doubling of the crop. Two inches is a sufficient covering, if the hill is trodden upon, as it should be, by the planter, to compress the earth and preserve its moisture.

After culture.—In this the plough should not be used if the corn harrow and cultivator can be had, and if used, should not be suffered to penetrate the soil more than two or three inches. The plough tears the roots, turns up and wastes the manure, and increases the injuries of drought. The main object is to extirpate weeds, and to keep the surface mellow and open, that the heat, air and moisture may exert the better their kind influences upon the vegetable matter in the soil, in converting it into nutriment for the crop. The oftener the cultivator is made to pass between the rows, therefore, the better; though ordinarily but two dressings are given to the crop. At the first dressing with the hand hoe, the plants are reduced to four, or three, in a hill, the surface is broken among the plants, the weeds carefully extirpated, and a little fresh mould gathered to the hill. At the second dressing, a like process is observed, taking care that the earthing shall not exceed one inch and a half, that the hill be broad and flat, and that the earth for this pur-

pose be not taken from one place, but gathered from the surface between the rows, where it has been loosened by the cultivator.

Harvesting.—The crop should be cut up at the ground as soon as the grain is glazed, or as soon as it will do to top, and, without being laid on the ground, set immediately in stooks. There are four substantial reasons for adopting this mode of harvesting. It secures the crop from the destructive effects of frost; it quadruples the value of the fodder; it clears the ground early for a fall crop, and it saves labor in harvesting; and, we may add a fifth, it makes a better crop of grain, under any contingency, than when it is topped in the old way. We are confident of this last fact.—The grain continues to profit by the elaborated sap in the cut stooks, while it does not profit by the unelaborated sap, below the ear, in the topped corn.

Husking and cribbing.—The ears should be gathered from the stooks, and the latter stacked, as soon as they have become sufficiently dry and cured, as unnecessary exposure to the weather is prejudicial to both the grain and the forage. From two to three weeks generally suffices to effect these objects. The corn may be picked off and carried to the barn, and it should be husked within 24 or 36 hours thereafter, and before the least heat is perceptible in the pile, and the stooks bound and placed in small stacks, so as to expose all the butts, which have become saturated with moisture by standing on the ground, to the drying influence of the sun and winds—and the stacks topped, or covered with straw, so as to shed rain. After a fortnight or so, they may be carried, in a dry state, to the barn. When picking the corn from the stalks, the best seed ears should be selected, and immediately braided, and hung in an airy loft. The corn should be exposed, after being husked, upon the barn floor, to the drying influence of the winds, and it may require to be turned over and stirred, till the cob is thoroughly dried. If this is wet, when cribbed, fermentation may ensue, or a frost may follow, sufficient to congeal the moisture in the cob, either of which will impair the quality of the grain, and destroy its germinating principle.

In sorting the corn, we make three parcels, viz. sound grain for the crib, pig corn, embracing the ripened but defective ears, and the truly soft and smutty ears, which are not husked, but thrown by for immediate use. The silk and husks are carefully separated from the two first parcels, as they imbibe moisture, induce mouldiness, and afford building materials for mice. We also separate the grainless tips and stems of that which we place in cribs, for the like reasons, and to preserve the grain in a sound bright condition.

The forage from the corn crop, when saved in the manner we have directed, is an excellent fodder for neat cattle, if cut for feeding out. We have used it in this way, exclusive of hay, for two years, and find it answers all the purposes of hay. Our practice is to cut a quantity, to mix with it bran, or roots, cut up, when we have them, and to sprinkle the mass with brine, and to feed in mangers.

THE GARDEN

Will now begin to require the attentive care of those who mean to profit by its riches, or derive pleasure from its floral beauties and fragrance.

The first object should be, to render the garden soil dry and rich. The first may be effected, where necessary, by under-drains, the second by manures. The next, to have the soil well prepared by digging, or thorough ploughing, for the garden crops, and always to plant, sow and transplant upon the fresh stirred soil. In the culture, three cardinal rules should be observed: 1. Never suffer plants to grow too close, so as to prevent a full development of growth; 2. Never suffer weeds to rob them of their food; and 3. Keep the surface of the soil loose, that it may be permeable to the influence of the sun and atmosphere. Having spoken in our last of the modes of propagating, planting and pruning trees and shrubs, we will now make a few remarks upon the culture of culinary vegetables and herbaceous plants.

Early crops.—About the 15th to 25th April, in this latitude, is a proper time to sow in a *hot-bed*, for the construction and management of which see last vol. seeds of plants wanted for early use, and of such as require to be started early to bring them to due maturity; of the first may be mentioned lettuces, early cabbage, cress, &c. and of the latter, peppers, tomatoes, egg plants, &c.—and if flowers are to be cultivated, astors, balsams, marygolds, coxcombs, xeranthemums, amaranthus, &c. may be added. All these may be sown in a frame of three sashes, sufficient for an ordinary garden.

Cucumbers require a distinct frame. As soon as the season is sufficiently advanced, the plants of lettuce, pepper, &c. may be transferred from the hot-bed to the open ground. Where no hot-bed is provided, the hardier kinds of these seeds may be sown, together with cellery, in a warm protected border, during the period already indicated, and the tenderer ones early in May. There may also be sown in the open ground, as soon as the soil is sufficiently dry and warm, spinach, early beets, peas, radishes, a few carrots, Windsor beans; and in the latter part of the month, kidney beans and potatoes, for early use. The main onion crop may be put in about the 25th April, and the main crop of beets, carrots and parsnips the first fifteen days in May. It is desirable that these seeds should not be deposited until the temperature of the soil is such as to induce a prompt germination.

In planting, the rule we have laid down, will require the drills for small seeds to be at least twelve inches apart, and that the plants in the drills be thinned as soon as they are out of danger. Drills are made with a hoe, a stick, a drill-barrow, and with various contrivances of the gardener.

In covering, the great point is to give them no more earth than is required to secure to them a proper degree of moisture until their roots have got a firm hold of the soil—for heat and air are as essential to growth as moisture is. For this reason the earth is generally pressed upon small seeds, superficially buried, with a roller, hoe, or by other means, to prevent an excess of evaporation.

When early corn, planted the last of April, breaks the ground, which will seldom happen here before the 12th or 15th May, it shows a temperature in the soil suitable for the growth of cucumbers, melons and other vines, Lima beans, and all tender annual products, and this will be the best guide for planting them.

Of the perennials useful in the garden, *asparagus* may be classed as among the most valuable. The seed may be sown in drills, on a well prepared bed of earth, like beets, and at the same time. It well taken care of the grass will be fit to cut for the table the third year, and the bed will last fifteen or twenty years. *Rhubarb*, or the pie plant, comes next in usefulness. It furnishes an excellent material for tarts and pies for two or three months, and until garden fruits come in use, and its use is highly conducive to health. It is propagated by offsets, or by seed, which latter ripens in August, and may be then sown. A dozen plants, in good ground, will suffice for a family. It requires no care except in keeping down weeds. Its main leaves spring from the crown like those of the burdock. There is a giant variety, a hybrid, of very large growth, which does not produce seed.

Among the culinary and medicinal plants, easily cultivated, and always useful, may be named parsley, a biennial, summer savory, an annual, and thyme, balm, camomile, mint, tansy, hyssop, rue, sage, smellage and wormwood, all perennials. A few plants of each of these will suffice. They may be planted in a border. They should be gathered for winter use when in bloom, and hung up to dry in the shade.

Biennial plants intended for seed, as cabbage, ruta бага, carrots, beets, onions, parsnips, &c. should be planted out this month, taking care not to plant out any two species of the same genus, or kinds that will *mix*, in the same enclosure. The cabbage will spoil the turnip, and vice versa; and all the species and varieties of the same family will mix and destroy the distinctive character of each other's seeds. As the plants advance in growth, they should be secured from falling by being tied to stakes, or by other efficient means.

The same rules apply to flowering as to other plants, in regard to sowing, transplanting, cultivating and seeding—with this difference, that flowers being here the main object, those will be multiplied, in a measure, in proportion to the diminished growth of the stock; that is, they will be increased by transplanting, in such species as will bear this operation. They must have room to flower well; and all plants having inferior flowers must be eradicated early, if we would secure good seed.

The tools employed in garden work may be the ordinary tools of the farm—such as a spade, rake, hoe, &c. but a garden line, an iron rake, a skim hoe, either the Dutch shove hoe, or the turnip draw hoe, figured at p. 50, vol. 1, of the *Cultivator*, and which may be made to any required breadth, may assist to give symmetry to the garden, and to abridge its labors.

We will repeat, that most plants, in order to develop their excellencies, require a clean rich soil, pulvurent and dry—with room

enough for their roots to gather food from below, and for their stems and branches to have the full benefit of the sun and air above ground.

In the cares of the garden and farm, let no one forget, at this season, to plant shade and ornamental trees about his house and court yard. They will add much to his personal comfort, much to the beauty of his mansion, and much to the intrinsic value of his estate.

ITALIAN AND SIBERIAN SPRING WHEAT.

There seems to be two kinds of spring wheat of great repute in Oneida county, the Italian and Siberian, which we have till now supposed to be identical, and which circumstance led us in our last to denominate the whole Siberian wheat. The kind noticed by Mr. Hathaway, is alleged to have come from Florence, and is called *Italian*. We have received a sample from Dr. Goodsell, of Utica, said to have come from Switzerland, which is denominated *Siberian*. So that although we supposed that there was but one Dromio, it turns out that we have a Dromio of Ephesus and a Dromio of Syracuse—a new wheat from Siberia and a new wheat from Italy. We have samples of both before us, and find there is a marked difference between the two. The Siberian is the largest berry, and the dullest color. The Italian the smallest and brightest grain.

The character of the Italian wheat has been already given by Mr. Hathaway. That of the Siberian we derive from Dr. Goodsell, of Utica. It is prolific, the Doctor's Siberian having given a third greater product than his common spring wheat; and one of his neighbors considers its product double. Mr. Tower, near Deansville, as we are advised by a gentleman from that place, raised 160 bushels on four acres last summer. It makes a heavy return in flour—Dr. Goodsell having obtained 50 lbs. 6 oz. from a bushel—2 lbs. 6 oz. above the standard of good winter wheat. It is believed it will escape the ravages of the grain worm, from the circumstance of its being a late variety—a gentleman from Rensselaerville, who has raised it, assuring us that it ripens very late.—Both kinds are in great demand, and have been purchased up at \$3 per bushel. Our neighbor Thorburn, the seedsman, has procured a few bushels of the Italian, at an expense of about \$4.50, and sells it at \$5. We intend to try both kinds.

Brooks' Silk Spinner and Twister, deserves a further notice from our hands, because we think it ranks among the most useful improvements of the day, and is calculated greatly to facilitate our progress in the silk business. Let it be remembered, that very little instruction is required to qualify a woman to use it; that it is equally adapted to the fabrication of sewing silk, twist, or to a thread for any required fabric, and that it produces all these, as far as we can judge, in a perfect manner. Now the question is, what will it earn, in a silk family, or a silk neighborhood? For now-a-days, *profit* is the great desideratum. In this matter, we shall speak on the authority of the patentee, a very unassuming, intelligent, and, we believe, honest member of the society of Friends, or Quakers. He says it is a moderate day's work to spin and twist half a bushel of cocoons into sewing silk, and that the fair average product of these cocoons would be 175 skeins of sewing silk, worth now, at wholesale price, five cents the skein. The highest price of cocoons is \$4 per bushel. Assuming these data, and basing our calculation upon five bushels of cocoons, which a family of girls may easily produce every year, let us see what would be the gain which would accrue to this family in five years, from the use of this machine.

The 25 bushels of cocoons would produce 8,750 skeins silk, worth five cents at wholesale.....	\$437 50
From which deduct the wages of a woman, 50 days, at 50 cents,.....	\$25 00
Add cost of machine,.....	35 00

And it makes a total of..... 60 00

And leaves a profit of.....	\$377 50
The highest price at which cocoons sell is \$4, which would be, for the 25 bushels,.....	100 00

\$277 50

Which shows a profit, in buying and using this machine, over selling the cocoons, in the small quantity of 25 bushels, of \$277.50. This would require the labor of a woman only ten days in a year,

or 50 days in the five years. The remainder of the time, to any extent required, might be as profitably applied, in working up the cocoons of the neighborhood, of the town, or of the county; and the value of the machine would be yet but little impaired by these earnings! Every silk district should have one of Brooks' machines.

FARM ACCOUNTS.

The Dutch, celebrated as well for their prudence as their thrift, have a maxim, that "*no one is ever ruined who keeps good accounts.*" The maxim is so generally revered, that we find the manufacturer, the merchant, and the lawyer generally adhering to its suggestions, and keeping accurate accounts of their receipts and expenditures. Those in these employments who do fail, either neglect the precaution, or are reckless of the consequences of failure; for if they are conscious, as all should be, that they *live within their income*, a failure will seldom occur. The rule applies with equal force to the farmer. If he keeps an accurate account of his receipts and expenditures, he knows what are his resources—what the profit or loss of his business—at the close of every year;—he can graduate his family and other expenses accordingly, and if he cannot command success, he can merit it, by a course of industry and economy, which will never fail to secure him friends in time of need.

By keeping accounts, the farmer is able to ascertain the adaptation of his farm to particular crops, or kinds of stock; to determine upon the relative advantages of each, and to vary them according to circumstances. The keeping of accounts has a moral effect. It prevents procrastination, the "thief of time." The very consciousness that a man has to make entries of every thing that he does, keeps his attention alive as to what he is to do; and the act of making those entries, is the best possible training to produce active and pains-taking habits.

Keeping farm accounts is an incumbent duty to our children. It teaches them business habits—makes them acquainted with the nature and value of property, of various kinds—inculcates lessons of industry and prudence—and gives a value and a zest to the comforts and pleasures which are the reward of their personal care and industry.

We have met with no form which we deem suited to the condition of our farmers. But of such high importance do we consider the keeping of farm accounts, that we venture to recommend a model, sensible, however, of its imperfections, and would respectfully beg of gentlemen more competent than ourselves in the matter, to favor us with a better plan.

We will take for our illustration, a farm of 100 acres. Of this, a diagram or map is to be made, each subdivision numbered, and its contents, in acres, noted. The objects of keeping a journal may be one or all of the following:—

1. To ascertain the nett annual profits of the entire farm;
2. The profits of each crop, or field, or course of crops;
3. The profits of each species, or of the entire farm stock, and
4. The expenditures and income of the family.

The farm is charged with all expenditures made for its improvement and culture, including stock, labor, board, dung, taxes, new implements, interest on its estimated value, ten per cent for wear and tear on old implements and tools. And it may, in like manner, be credited with all its annual products, whether sold or consumed in the family—and with the increased value of its stock, improvements, &c.

If it is desired to know the profits of a field for a single year, or during a course of crops, the labor, dung, seed, &c. expended upon it, should be charged to it; and it should be credited with the products, whether grain, grass or pasture.

Where it is desired to know the profits upon stock generally, or upon a particular kind, this head may be charged with purchases and keep, and credited by sales of animals, increased value and products, as butter, cheese, wool, meat, &c. sold or consumed in the family.

The fourth object is one of interest to every prudent manager, who would observe the golden rule, *to live within his income*. A knowledge of one's actual income, and of the expenditures of his family are essential in every well ordered household. The family account should exhibit the total expenditures for the family, whether for food, clothing, pleasure, furniture, schooling, &c. and the labor of the family upon the farm, and the board of the workmen, and interest and dividends upon vested capital.

All these matters may be entered in a diary or journal, in a few minutes each day, and at the end of the year, posted under the four leading heads of *Farm, Crops, Stock and Family*, or the second and third may be subdivided into single fields and for the different kinds of stock. The footings will show the relative profits or loss under each head. Where the account is posted to the fields separately, the relative advantages of the different courses may be determined at the termination of the course. Minute details are not required. The total expense of putting in a crop may be comprised in one charge, harvesting and housing in another, and threshing and marketing in a third. The value of the total product of a field may also form one entry. The object is to enable the proprietor to come to some pretty accurate result.

We give the following as the forms of books which we have adopted. A quire of paper may be ruled to this or any other form by the farmer himself, and may be covered and stitched by the wife.

FORM OF A FARM JOURNAL.

1837	No. 1, Dr.	To 40 loads manure, at 8s.....	\$40 00
May 15.	Stock, Cr.	By 10 lambs sold, at 12s.....	15 00
	Family, Dr.	To 20 bushels wheat, at \$2 per bushel,	40 00
	Farm, Dr.	To cash paid J. B. for 3 mo. labor, at \$12,	96 00
Dec. 1..	No. 1, Cr.	By 200 bushels corn, sold at \$1—stalks \$15, ..	215 00
	Stock, Dr.	To summer keep of 12 cows, at 8s. per mo. 7 mo	84 00
	Family, Cr	By board of 4 laborers 6 mo. at \$2 per week, ..	208 00
	Farm, Cr..	By value of wheat from field No. 2,	304 00

FORM OF A FARM LEDGER.

Dr.	Farm,	Cr.	
fo 30 To cash to A. B. for 6 mo labor,	\$72 00	to 12 By 5 tons hay, sold at \$20 \$100 00	
32 To 2 tone plaster, at \$6, ..	12 00	15 By 500 lbs. wool, sold at 50 cents,	250 00
36 To an iron plough,	25 30	18 By profits on wheat, No.2	76 00
40 Cash paid for 20 sheep, ..	60 00	20 Profits on rutabaga, No.6	134 00
46 To loss on corn crop, in No. 6,	12 75	31 By increase in value of stock,	150 00
47 To taxes paid on farm, ...	7 25	35 By cash for 6 cows sold, ..	140 00

The above forms will serve to explain our views, and may be altered or improved to suit the taste or business of each individual.

The Tooth Ache.—A correspondent to the Montreal Herald, states, that after suffering excruciating pain from this ache, and having tried in vain to obtain relief,

"Betty told me a gentleman had been waiting sometime in the parlor, who said he would not detain me half a minute. He came—a friend I had not seen for years. He sympathized with me, while I briefly told how sadly I was afflicted.

"My dear friend," exclaimed he, "I can cure you in ten minutes."

"How? how?" inquired I; "do it in pity."

"Instantly," said he,—"Betty, have you any alum?"

"Yes."

"Bring it, and some common salt."

"They were produced; my friend pulverized them, mixed them in equal quantities; then wet a small piece of cotton, causing the mixed powders to adhere, and placed it in my hollow tooth.—'There,' said he, 'if that does not cure you, I will forfeit my head. You may tell this in Gath, and publish it in Askalon; the remedy is infallible.' It was so. I experienced a sensation of coldness, on applying it, which gradually subsided, and with it, the torment of the tooth ache."

Easily tried.

Farming Implements.—It will have been seen, by the last Cultivator, that the State Agricultural Society have appointed a board of examiners, comprising men of science, and practical machinists and farmers, to meet semi-annually, to examine, and thoroughly to test, (and to give certificates of merit,) all farm implements and machinery which may be offered for their inspection. We are glad to learn, that the gentlemen designated will attend to the duties of their appointment, and that notice will shortly be given of the time and place of their first meeting. This measure, if properly carried out, and we feel confident that it will be, cannot fail of producing a highly salutary influence upon our agriculture, and upon the general interests of the state. It will give general confidence in implements and machines

which are truly meritorious, and to multiply them upon our farms; while on the other hand, it will tend to prevent imposture, and to save great expenditures for inventions which are comparatively worthless.

A CALCULATION.

There are, by estimation, 250,000 improved farms in this state, upon three-fifths of which, we believe, it is the practice to *summer yard* manure; that is, to leave it in the yard to rot during the summer, by which one-half of its fertilizing properties are lost to the farm. It will not be considered extravagant to suppose, that the manure thus permitted to waste upon these 150,000 farms, will average ten loads to each. This would give an aggregate of one and a half millions of loads of manure which are annually summered in our farm-yards, and about our farm buildings. If the calculation of Davy is correct, that yard dung loses one half of its fertilizing properties by undergoing a complete fermentation in the yard, there is an absolute loss, from this reckless or ill-judged mode of managing dung, of 750,000 loads, worth, to a good farmer, one dollar a load. Let us now see what this last manure would produce, if applied to the corn and potatoe crop, in the spring, instead of being suffered to lay till autumn in the yard; for no one will pretend that dung wastes more in the soil than it does upon the surface of the ground, exposed to the weather. Von Thaer, after a series of experiments, has stated, that the fertility of an ordinary soil is augmented 50 per cent. by the application of twenty loads of dung to the acre. Although we believe this estimate will hold good in regard to the corn and potato crops, we will, in our calculation, consider the augmentation only one-third. The 750,000 loads of lost dung would manure 37,500 acres of corn land, at the rate of 20 loads to the acre. Assuming 30 bushels per acre as the ordinary crop, the manure then, by our rule, which is certainly graduated low, would have added ten bushels to each of the 37,500 acres, or in other words, would have produced 375,000 bushels of corn, worth, now, nearly half a million of dollars. But if we assume, what we believe to be within the bounds of truth, that every load of long manure, under good management, will augment the product more than one bushel, the gain to the state, by a general adoption of the mode recommended, of fermenting all our long manure in the corn field, would amount to 750,000 bushels, which, at present prices, would be worth nearly a million of dollars.

This is but one branch of improvement of which our husbandry is susceptible. Thorough draining, a judicious system of alternating crops, the root culture, &c. may each be made to augment our crops to a greater extent than the improvement we have suggested. Every article of our produce has been more or less enhanced by the failure of our corn crop, and every class in community are paying *smart-money* for the neglect and contumely with which the interests of agriculture have been treated in our legislative halls. Days, weeks and months are spent in unprofitable debate, upon trivial questions of order, the division of a town, or the incorporation of a bank, in which the state has but a modicum of interest, while not a day, or an hour's time, can be spared to discuss the great business of agriculture, the noble base which supports the whole fabric of society. Millions have been expended to endow schools of literature, but not a cent to endow schools of labor. Though the lion now sleeps, he may be provoked too far.

But we are straying from our object, which was to show to the farmer, the importance of applying his long manure to his corn and potatoe crops, and to urge him, by the strongest considerations of interest, to do it **THIS SPRING**.

Superior Oats.—We have two varieties of oats on hand, of superior quality, both weighing over 40 pounds the bushel, raised in this state. One variety is from Dr. Goodsell, of Utica, Oneida, and is the progeny of a single stool, of uncommon appearance, found growing in a barley field. The other kind was raised by Col. F. Lansing, of Watervliet, and has no distinctive name. Since we have a legal standard of weight for this grain, its character is evidently improving, and it has become a matter of moment for farmers to cultivate only the *heaviest* kinds.

Remember this.—Unfermented vegetable and animal matters, including green sward, green crops and long manure, after being buried by the plough, should never be exposed to the sun and

winds by cross-ploughing, until they have become perfectly rotten. The gaseous matters which dung gives off while undergoing fermentation, always rise, because they are lighter than atmospheric air. They enrich the soil, and afford food to plants, because they have already formed a necessary part of plants. Hence, if fermentation takes place on the surface, these gaseous matters are scattered and lost; if in the soil, the earths and moisture retain them there, and the plants feed upon them.

THERMOMETERS.

Fahrenheit's is used in Great Britain and in the United States. In it, the range between the freezing and boiling points of water is divided into 180 degrees; and as the greatest possible degree of cold was supposed to be that of producing snow with muriate of soda, it was made the zero, hence the freezing point became 32°, and the boiling point 212°.

The *Centrigade* thermometer places the zero at the freezing point, and divides the range between it and the boiling point, into 100°. This has long been used in Sweden, under the title of *Celsius's* thermometer.

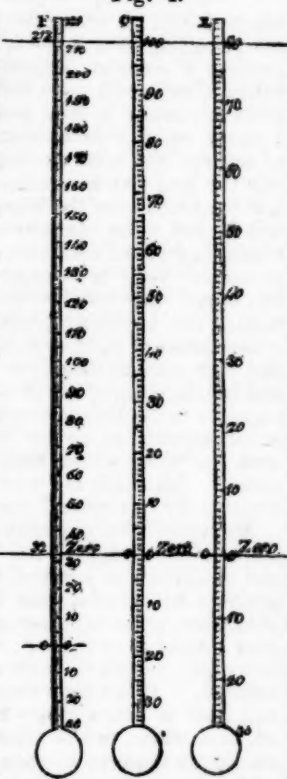
Reaumur's thermometer is generally used in France. It divides the space between freezing and boiling of water into 80°, and places the zero at the freezing point.

As reference is often made to Reaumur's scale, and sometimes to the Centrigade, in foreign authorities, the reader is often puzzled to determine the corresponding degree upon Fahrenheit's scale. To aid in this, and as a matter of easy reference, we subjoin the three scales of Fahrenheit, Reaumur and Celsius.

To the young and others not acquainted with the thermometer, it may be well to remark, that it consists of a graduated glass tube, containing quicksilver, which ascends in the tube by the expansive force of heat; that when water freezes, the quicksilver rises to 32° in Fahrenheit's scale; and that when water boils, the mercury rises to 212°.

The first on the left of the cut, is Fahrenheit's, the centre the Centrigade, and that on the right, Reaumur's scale.

Fig. 4.



FARM IMPLEMENTS.

The introduction of labor-saving farm implements is so essential to agricultural improvement, and the inquiries for them of us are so numerous, that we subjoin a list of several now on hand by Mr. Thorburn, Seedsman, with their prices. Orders may be either forwarded to Mr. T. directly, or, when more convenient, through the Conductor of the Cultivator.

Straw Cutters—Green's* and the Columbian,* each \$30.

Cultivators—Bement's* \$10 to \$15; Van Bergen's* \$13; Craig's* \$6.50.

Drill-Barrows—Robbins'* \$15; Bement's* \$8 to \$10; Merchant's* \$3.

Ploughs—Wiley & Conklin's, \$4.50 to \$8.

Harrows—Craig's* angular, \$13.50 to \$15.50 the pair.

Horse Rake—Pudney's revolving* \$6.

Corn Shellers—Adrian's cast iron \$15; Gregory's double \$16.

Brooks' Silk Spinner and Twister,* for families, \$35.

*Allen's Threshing Machine** \$45; with horse power from 75 to \$100.

Melish's Vegetable Root Cutter, \$10.

Italian Spring Wheat \$5 per bushel.

He receives orders for Concklin's *Press Harrow*,* price \$100, packed for transportation, and for Wilson's *Mowing Machine*.*

Those with this * mark have been figured and described in the Cultivator.

PUBLIC ADVANTAGES TO BE DERIVED FROM THE ESTABLISHMENT OF AN AGRICULTURAL SCHOOL.

We make the following extract from the *Farmers' Register*, to advertise the public of the kinds of instruction which it is intended shall be given in the contemplated School of Agriculture, and to show some of the public benefits which are expected to result from its establishment. The article, it will be perceived, is from the pen of our esteemed friend, Dr. J. P. BEEKMAN, of Kinderhook.

"To develop, however, more fully, what we conceive will be its probable practical effects upon the future increase of our agricultural products, I must acquaint you with what is intended to be taught in this institution. First, *mathematics*—the science which contemplates whatever is capable of being numbered and measured, so far as it leads to a correct knowledge of practical mechanics, the application of the principles of power, and land mensuration. Second, *chemistry*—the science which enables us to discover the peculiar properties of all natural bodies, either in their simple or compound state, so that we can analyze the different kinds of soils, ascertain wherein they differ, and, if possible, in what the principles of fertility consist, and what must be added, or taken away, to make barren or unproductive land more productive. The doctrine of manures cannot be understood without a knowledge of chemistry; and it is a subject so extensive in its application to farming purposes, that it must become the A B C of the farmer's education. *Geology*, and, if necessary, *mineralogy*, so as to discriminate between the different kinds of substances the earth is composed of, that we may have a correct knowledge, not only of what the surface of the soil consists, but what is buried beneath it. *Botany*—the science of plants, or that part of natural history that relates to vegetables, that we may ascertain their different uses, discriminate the exhausting plants from those which are not so much so—the locations most favorable to their growth—the seasons for their production and reproduction—their laws of generation—the alternation that ought to be observed for the best development of their powers—so that whatever plant we cultivate, it will be the most perfect and valuable of its kind. *Entomology*, or more properly, *grubology*—to ascertain the kind, nature and variety of insects that prey upon, destroy or injure our corn, wheat, turnips, fruit, &c. with a view to their protection or destruction.

"The principles of industry are to be instilled, and the most regular and systematic manner of farming practised. A correct moral deportment inculcated both by example and precept—early rising and cleanliness promoted—in short, the practice of every virtue insisted upon and most sedulously maintained, whilst idleness and vice must receive no countenance. So, that when young men graduate from this institution, their minds shall be well stored with all the information that relates to the peculiar business of farming, their hands taught to give efficiency to the knowledge they have acquired, and their habits formed to give stability to their characters, and make them most useful members of society. In enumerating the studies to be pursued, I may not have been sufficiently select or particular—my object is to give only a general outline of the plan, which, when hereafter put in practice, will be more carefully and systematically arranged.

"Suppose such an institution to contain two hundred students, and a course of studies to last three years. It would send each year near seventy young men, so educated, into the different sections of the state. Their knowledge of theoretical and practical farming would be generally diffused; and continue this number for many successive years, it would give thousands of the best farmers, scattering them through every portion of the state. And here let me ask, who is so much of a skeptic as not to believe that agricultural knowledge would not be increased by so great an accession, and in consequence, agricultural products be prodigiously multiplied? But this is not all; our school would not only send her missionaries of intelligence and industry through the state, but all her operations, so far as competent professors could discharge their duty of instructing or experimenting—of collecting, comparing and examining—of all that was most familiar or rare—ornamental, useful or profitable, in each of their peculiar departments—in a short time we would have a farm and collection, which would vie in extent and appearance, and much exceed in usefulness, the far-famed gardens of London or Paris.

"Probably, at no time in the history of our state, could an agricultural school be founded under better auspices for ultimate success, than at present. By the establishment of agricultural journals, a taste for that kind of reading has been created; our citizens are alive to further improvements, for they have heretofore felt the want of any. The efforts made and making to give a more thorough school education to our population—the ability of our citizens to contribute whatever may be required to carry the object into effect—the easy transmission of produce through every portion of our state, by our rivers, roads, canals and rail-ways—the facility of communication with New-York, one of the best markets in the world—all are so many aids to the successful completion of the plan.

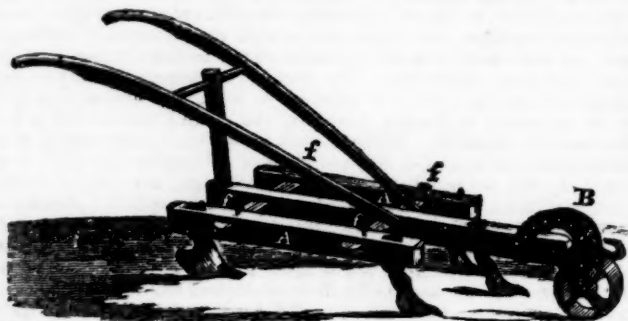
"Should this school go into operation, and carry out the great principles of its founders, the time will, *must* come, when every citizen will be proud of it as a state institution; when those who have been its friends will gladly come forward and claim the honors to which they will be entitled, and the present state authorities will take a pride to date its com-

mencement as coeval with their administration of power; for, besides being a test farm systematically managed, its manufacture and collection of the various farm implements—its specimens of geology, mineralogy and botany—the exhibition of its animals—the order and regularity of all its operations in husbandry—the circulation among our farmers of useful intelligence collected there, either from practice or experiment—the aids it will give to our agricultural journals—and, above all, the young men it will yearly send out to every portion of our country, to vivify by their intelligence, and fructify by their industry, whatever place they settle in, will be so many claims to popular favor—for they will be constant and living evidences of its great usefulness.

I remain your friend, &c.
Kinderhook, Jan. 26, 1837."

J. P. BECKMAN.

VAN BERGEN'S CULTIVATOR.—Fig. 5.



The above is a figure of a Cultivator invented by A. Van Bergen, Esq. and for sale at Thorburn's Agricultural Warehouse.—It consists of three bulls, (A. A.) connected by two cross slats, fastened in the outside pieces by thumb screws, (f. f.) and which admit of the machine being contracted or expanded at pleasure. The three forward shares are triangular; the two behind are moulding shares, and, by shifting, may be made to turn the earth to or from the plants, at pleasure. It is drawn by a horse, and can be regulated as to depth by the bridle (B.) It may be used among all rowed crops.

Our national motto once was, "*millions for defence, but not a cent for tribute.*" A correspondent suggests the following parody, as suited to the action of the legislature upon the surplus fund:—"*Millions for the professions, but not a cent for the arts of productive labor.*"

If it is true, as is alleged, that some farmers in our legislature, are averse to giving any public monies to aid agricultural improvement, we do not hesitate to say the sentiment is unworthy of them; and that enlightened men will be apt to charge them with either ignorance or jealousy—ignorance of the value of rural improvement, and of their duty—or jealousy lest others may be enabled to surpass them—and their own profits and popularity be consequently lessened.

Hollow Wooden Rollers may be constructed by most farmers, at a very moderate expense for iron work. Take three cast off fore wagon or other small wheels; place two of them six feet apart, and the other in the centre; fix an iron axle through the naves of each, so as to connect them together, and serve to draw by; upon these, strong planks, cut very narrow, and bevelled at the edges, are to be firmly nailed lengthwise, until the roller is completely covered. It may then be mounted in the usual manner. If additional weight is required, as will generally be the case, it should be hung on the axle within the hollow. The draft of a roller is lessened by increasing its diameter: for it has been proved, that the same strength which is required to draw a roller of half a ton weight, over a height of two inches, when the diameter of the cylinder is one foot, will suffice to draw rollers of 15 and 18½ cwt. when their diameters are respectively two and three feet.

Italian Rye Grass.—S. J. Bayard, of Seneca, advises that his Italian Rye Grass promises to stand the winter well. A small patch in our grounds, last winter, also did well. This grass is adapted for early spring feed, and should our climate not prove too severe, will be a valuable acquisition to our husbandry. Mr. B. asks what variety of the pea is best for field culture? We answer, the marrowfat, if designed for market.

TILLAGE HUSBANDRY.

WHEAT.

Soil.—Good wheat cannot be grown upon a soil which does not contain both clay and carbonate of lime. Those denominated wheat soils by Von Thaer, contain at least 40 per cent of the former, and two per cent of the latter, though 50 or 70 of clay, and 4 to 6 of lime, are found in the best wheat lands. Heavy loams and stiff clays, with a due proportion of carbonate of lime and *humus*, or vegetable mould, give the best grain and the best crops.

Cultivation.—The writers upon British Husbandry recommend a naked fallow, or, where the land is of a light nature, to sow upon one ploughing after a clover ley. We shall ere long show, by the practice of eminent farmers whom we intend to quote, that the naked fallow, even upon stiff clays, may be dispensed with, with great advantage to farm profits. When it is intended to sow upon a clover ley, it is recommended to plough a month before the time of sowing, that some decomposition of the sod may take place, and that the land may have time to settle. Whether these advantages will counterbalance the benefit of sowing upon the fresh turned soil, will depend upon the season, or humidity of the climate. If the season is dry, and continues so, the advantages of the fresh ploughed soil are likely to be superior. A second ploughing, on a clover ley, is not only considered useless, but prejudicial; as it not only wastes the fertilizing properties of the sward, but it impairs the compactness of light soils, upon which clover is principally grown, and thus renders them less adequate to the production of a strong and healthy crop of wheat—compactness of the soil being a material requisite to the favorable growth of this grain. To produce this, it is not uncommon, on dry soils, and in dry weather, to turn sheep upon the young wheat, both before the frosts in the fall, and in the spring. Machines are also employed to compress the soil, constructed for this special purpose.

Manure.—The propriety of applying barn-yard manure to the wheat crop, though it may have undergone partial fermentation, and be applied on a naked fallow, is seriously questioned. "Experience has shown, that its application is very generally rather productive of an increase of straw than of corn; that the crop is thus subject to be lodged; and the wheat has been found inferior in weight, as well as more subject to smut, than when it has been avoided." It has been found more beneficial to apply the manure to a hoed or fallow crop which precedes the wheat. And it is urged, that where naked fallows are inevitable, and yard manure is absolutely required to ensure a crop, it should be previously mixed with refuse earth, as the scrapings of roads and ditches, to form it into a compost. We are rather inclined to favor the practice, upon stiff clays, and when the manure has rotted, of applying it after the last ploughing, and to harrow it in with the seed. The manure has then parted with its volatile properties, and its enriching qualities consist in fine carbonaceous matter, which the rains carry to the roots of plants; it tends to ameliorate a stiff clay, and serves to preserve the young grain from the injurious effects of frost.—As wheat abounds more in gluten, a substance analogous to animal matter, and affording nitrogen, than most other plants, it has been supposed that animal manures, as fish, oils, bone dust, horn, and urine, would be peculiarly beneficial to wheat grounds, and several experiments seem to warrant the conclusion. Lime is also often beneficial, but we are admonished to be cautious in its application; "for, if applied in a caustic state, it acts so powerfully as a stimulant, that if the land be not supported by an equivalent application of putrescent manure, it will speedily be exhausted. If mixed in composts of dung, or other putrescent matter, it also prevents their fermentation, (!) and it should, therefore, never be laid upon lands in which those manures are not already decomposed; but it materially assists in the destruction of weeds and insects, and, therefore may be employed with manifest advantage when discreetly used. Mild lime, or lime in an effete state, is, on the contrary, of a totally opposite character; may be used with perfect safety in the formation of composts, and is not injurious when laid upon the land after the application of dung. It also binds sands and gravels, while it opens clays. In whichever state, whether effete or caustic, the lime be applied to a wheat fallow, it should, however, be completely combined with the surface soil previous to the sowing of the seed."—*British Husbandry*. It is to be borne in mind, that the English practice, to which the preceding remarks refer, is to apply from 200 to 400 bushels of lime at a dressing; and it is probable that the course recommended by M. Puvion, of applying ten

bushels annually to the acre, would not be attended with the evil consequences above apprehended. Marl, so far as it contains carbonate of lime, affords all the advantages of mild or effete lime.

The time of sowing.—It is said that strong lands should be sown earlier than light lands; and that late sown wheats are most apt to become mildewed. The particular time must vary so much, in the different states where the Cultivator circulates, that any directions of ours upon this subject would have but a local application.

"The grain may be sown to the depth of two or three inches upon a clay soil; and upon land which is more dry and porous, even at four; for it will thus obtain a firmer hold of the earth, and will be more out of the reach of that extreme drought to which those soils are frequently exposed. It may, therefore, on such land, be safely put in upon a superficial ploughing, when not sown upon a clover ley. These are, however, the extreme depths. On every soil, the nature of the land, as well as its condition, should also be well understood, before the depth can be properly determined; for if it be a heavy wet clay, the seed should be sown proportionately nearer to the surface, than if it consists of a friable loam; and if it has been brought into complete order by the operation of a summer fallow, it will necessarily be in a state of openness which will allow of the seed being placed deeper."—*British Husbandry.*

The spring tillage of winter wheat is effected by the harrow and roller. When the crop is root-fallen the roller is alone employed, to close the fissures, and press the earth to the plants. But on strong adhesive clays, which become hide-bound after a wet winter, the harrow, of a weight adapted to the soil, is employed.—Though the practice is not general in Great Britain, and is but seldom resorted to here, it is universal in many parts of Germany and Poland. "There," says the writer of British Husbandry, who managed a farm three years in Germany, "on the first return of fine weather, the harrows are immediately passed freely over the wheat; so freely, indeed, that the whole field wears the appearance of having been newly sown, for the plants appear buried under the soil thus freshly stirred, and an ample top-dressing is thereby given to the crop. The crust formed upon the surface of the soil is thus broken, and the ground is rendered more pervious to the coronal root of the plants, which in a week or ten days spread and tiller with great strength. The operation is performed upon every kind of soil, but of course with harrows of a weight proportioned to the tenacity of the land, and not heavy enough to tear up many of the roots, though if a large quantity be not destroyed it is considered immaterial; and any farmer who omits harrowing is thought unpardonably negligent. It should be executed when the crop begins to re-vegetate, which necessarily depends on the climate and the state of the season. Attention is requisite to this; for if the work be done while the plants are in an inactive state, they may be rotted, and if when too forward, their growth might be checked." When the ground is to be stocked with clover, this affords a further inducement to use the harrow, as without it the grass seeds are very liable to fail. When the early spring growth is very luxuriant, from the richness of the soil, and the warmth of the season, the straw is liable to become weak and mildewed, and the grain to lodge. To prevent this, it is not uncommon to have it eaten down by sheep. It is also sometimes mown; in which case the work is carefully performed, at such a distance from the surface of the land as not to touch the heart of the plants.

Succession of crops.—"Universal experience has proved, that to sow wheat a second time upon the same land, without an intermediate crop, is exhausting the soil, and, if pursued for any length of time, eventually unprofitable to the farmer." "Clover has been called the 'mother of wheat,' and the ley is justly a favorite preparation of the crop; but it ought not to be repeated more than once in eight years, and it should only be sown when the ground is in such a state of cleanness, and so well manured [upon a previous crop] as to ensure the production of an abundant sward of grass; for, if this be not obtained, the wheat will invariably be found proportionably deficient. On good lands, which do not require a second year in grass, it will also be found most advisable to break it up after the first year's crops have been taken off; in which case the wheat may be sown, as we have already observed, upon a single ploughing, and thus a very considerable expense will be saved in the tillage of the ground."—*Br. Hus.* The tilled crops which ought to precede wheat, and which should receive the long manure, are Indian corn, peas, potatoes, and all other root crops, and,

upon a manured old grass ley, it may follow oats, or oats and peas. It should be preceded by no other small grain.

The culture of spring wheat is extending very much among us.—Although it gives ordinarily a less product than winter varieties, and though the grain be somewhat inferior, yet the crop is more certain. In the northern section of this state, in Vermont, Lower Canada, &c. it has almost superseded winter wheat, upon fresh cleared lands. Several new varieties have been introduced from Italy, the Black Sea, &c. which are highly spoken of, but of which we cannot speak from personal knowledge. More seed is required, of spring wheat, than of wheat sown in autumn. It was the opinion of Sir Joseph Banks, that bread made of the flour of spring wheat is more nutritious than that from winter wheat, because spring wheat contains a larger quantity of gluten, or half-animalized matter; and also, that its intrinsic value, by weight, does not fall short of the value of winter wheat more than two per cent.

The straw of wheat is reckoned at double the weight of the grain; an acre producing 24 bushels of grain, of 60 lbs. may therefore be presumed to yield about 26 cwt.

The flour of wheat which is cut before it is quite ripe, is whiter than that which is allowed to come to maturity, and bears a higher price in the markets. The grain intended for the miller should therefore be reaped before it has reached its perfect growth; but that which is intended for seed should be allowed to stand until the last moment when it can be cut with safety—the corn is ground into meal of various degrees of fineness; and a bushel of 60 lbs. weight generally yields, when dressed, about the following quantities, namely,

Fine flour,	25½ lbs.
Household, do	22½
Pollards,	8
Bran,	3

Of the *diseases of wheat*, we will now only speak of smut, which we have no doubt is infectious, and that a sure means of destroying the infectious matter, and saving the crop from smut, is to soak the seed in brine, and then coat it with powdered caustic lime. The brine should be so strong as to buoy up an egg, should so cover the seed as to permit the light grain to float and be taken off. The seed may be left in the pickle six hours, then taken out, spread upon the barn floor, and the lime spread upon it, as much as will adhere to the kernels. Some consider it of service to apply the lime before it has cooled from the slaking process. After steeping, the seed should be sown within 24 hours. Some farmers substitute as a steep, stale urine for brine, in which case the seed should not be left in it more than three hours. Messrs. Culley, in Northumberland, G. Britain, grew yearly 400 to 600 acres of wheat, had only one instance of smut in a practice of forty years, and that was when the seed was not steeped. Upon Lord Chesterfield's farm, one half of a peck of very smutty wheat was sown without steeping, while the other half was steeped two hours in strong brine, and dashed with lime. Two thirds of the crop from the seed not steeped was smut, while that from the seed steeped and limed had not a smutty ear. Another experiment: A quart of very fine wheat free from smut, was thrice washed, and then put into a bag for two days in which there had been smutty grain, and a large proportion of this was smutty in the crop; but of twenty acres sown with the same grain, not inoculated, not one head was smutty. These proofs might be greatly multiplied, were it deemed necessary.

CORRESPONDENCE—CONDENSED.

The favors of correspondents have so multiplied upon our hands, that we find ourselves obliged to resort to this mode of abridging a portion of them, in order to give to our readers the usual variety of matter.

"Shrewsbury, N. J. 2mo. 1837.

"I have noticed with satisfaction, and solicitude for thy success, the earnest endeavors thou hast made, and thy friends, to establish an *agricultural and manual labor school*, but now fear, that for lack of enlarged views, and corresponding zeal in thy fellow-citizens, one will not be organized in time to place my son in it seasonably." R. W.

"Marcellus, Feb. 14, 1837.

"J. BUEL, Esq.—It is matter of astonishment, that the Cultivator and other kindred publications are so little appreciated by our farming community, and that so many should still content themselves to place the stone in one end of the bag to balance the wheat in the other, and congratulate them-

selves in the happy decision—"my father did so, and 'tis the best way." It is, however, a matter of true congratulation, that one star after another is arising to enlighten our agricultural horizon, whose vivifying rays are felt, and will continue to be felt, on every field whose arable bosom is laid open to their genial influence; and that we may confidently hope that the time is not far distant, when on this subject men will no longer "love darkness rather than light." One reason, doubtless, why these agricultural periodicals are so lightly esteemed, and *book-farming* despised, is, as hinted above, the want of scientific knowledge among our farmers. As it was in the beginning, so now: "the light shineth in darkness, and the darkness comprehendeth it not." This is "darkness which may be felt." Indeed it is felt, for we know neither how to determine the deficiencies of our soils, or to develop their resources. It is felt by individuals, by neighborhoods, by communities,—by the *state* and *nation*: nor may we expect the burden to be removed from our shoulders, but by the establishment and successful operation of *Schools*, such as have been recommended, under legislative patronage, in which scientific and agricultural instruction shall be blended. One such luminary in each of our counties, to which the whole *farming* community might turn their faces, would soon dispel the darkness, would shed meridian day, would guide our doubtful feet in the paths of rural and domestic abundance, would pour millions into our public treasury."

STALL FEEDING VS. YARDING.

W. H. who dates from New-York, in reply to our N. Jersey correspondent, on stall feeding, pithily remarks as follows:

"Nature has laws that it is indispensably necessary to follow: yet in many cases much may be done by the aid of the skilful agriculturist to assist and improve. For instance, our corn grows, and is food to fatten our pork or beef; but a little help, if we may so speak, by grinding, makes it better; and if it is cooked, it is still better, at least for our pigs. Our friend says, if nature ties her bullocks by the neck, he will then admit the practice of tying to the stall to be correct. I would just say, by the same rule, if nature puts shoes upon our children's feet, I would also think that practice a good one. But our education, and knowledge of our own comfort and health, directs us to clothe our feet. And also, if we can judge from appearances, animals seek in winter the places where they are tied in their stalls, as most agreeable to their feelings. Brute animals are taught by instinct, and what they appear fond of generally proves beneficial, if they have it prudently given."

THE SAME.

M. CHAPMAN, of Linwood farm, Rhinebeck, has also sent us a communication in reply to A. B. C. against stall feeding. He gives it as his opinion, matured by thirty years' experience, on both continents, that cattle will fatten with greater facility, and less expense, in the stall, than in the yard. He says stables should be well ventilated, and frequently cleaned and well littered; and that the cattle should be regularly fed and watered. In laying on fat, he thinks a moderate degree of warmth, so as to cause a slight perspiration, and a variety of feed, contribute essentially to this object. He stables all his cattle except the year olds. The manure is deposited in piles at the stable doors, and every few days removed to the fields where it is to be used for summer crops, and deposited in long heaps.

HOW TO IMPROVE A POOR FARM.

RICHARD A. LEONARD, of Middletown, N. J. has furnished us with an interesting account of his manner of improving a worn-out farm, and of the sale of its products the last year; and we regret, that from the great accumulation of matter on hand, we cannot give his letter in detail. We are obliged to content ourselves with a brief abstract of material facts.

Mr. Leonard came into possession of 90 acres of cultivated, but exhausted land, in May, 1833. In that year, the sale of its products amounted to \$550.88; in 1834 the sales amounted to \$718.05; in 1835 to \$1,125.04; and in 1836, notwithstanding the unfavorable season, and the failure of most of his staple crops, to \$1,166.13—thus more than doubling its products, by judicious management, in three years. His expense during the last year, for labor, dung and freight, amounted to \$254.72—thus leaving him a nett profit on his farm, of \$912.41—or more than \$10 per acre per annum. We will quote Mr. L.'s statement of the means he adopted to thus double the fertility of his soil.

"My farm, says he, was in so low a condition that it would not produce more than ten bushels of rye, or twenty of corn per acre; and as I had no other income but what I could make upon this poor farm, I set about farming in earnest. I found it was in vain to attempt improvement without manure; so I contrived to get about 400 loads a year, 300 of which I made in the following manner. I have marl, though of very inferior quality. I cart about 100 loads of this into my barn yard, and by yarding my cattle upon it through the season, contrive to increase it to 200 loads. I also cart about 50 loads to my hog pen, on which I keep my hogs the year round. In this way I get 100 loads more, which is excellent for potatoes, corn, &c. and as my farm is situate near the bay, I obtain from New-York, annually, from 50 to 75 loads of the best stable dung, at about one dollar per load on delivery, and by mixing it with earth, &c. make up the 400 loads. By this treatment I find my land improve rapidly, and my

income in like proportion. But I am sorry to say there are many farmers among us who are still pursuing the old land-killing system, scarcely making both ends meet. I might say something concerning the beneficial results of underdraining, and of lime as a manure; but I must conclude for the present."

This communication affords a worthy example of prudent industry and good management, and shows that even a poor farm, well managed, may be rendered more productive than many a good farm now is under bad management.

THE LAND OF PROMISE.

WILLIAM GOULD, formerly of Lorrain, but now of Greenfield, Ill. sends us the following account of the country of his choice, which may be interesting to many of our readers.

"I have bought 200 acres of land here, on String Prairie, at \$3 per acre: 160 acres prairie, and 40 timber five miles off. Partially improved farms sell from \$5 to \$15 per acre. I am much pleased with my situation for the following reasons. 1. The land is cheaper than at any other place I have visited. 2. It is nearly all owned by individual settlers. 3. It is healthy. I reckon we are 100 feet higher than the waters of the Illinois river. 4. The face of the country is beautiful. There are roads in every direction, without any labor but travelling them. 5. Nearly all our fields, and principal roads, have right angles—a very great convenience in my opinion. 6. There is but little waste land. 7. The climate is delightful. 8. Slavery is prohibited here. 9. The temperance society is flourishing. And 10, the soil is rich and productive. Melons grow enormously large; corn becomes like a forest, 10 to 15 feet high, with ears having 20 or 30 rows on the cob; grapes are abundant and delicious, apples fine, and we abound in wild turkeys, prairie hens, rabbits, &c. Our stone is in quarries. I can get raw prairie broke up at \$2 per acre. The soil is generally black, and from 2 inches to 10 feet deep; much of it 2 feet." "N. B. If you publish my letter, I request that the words be spelled according to Cobb and Walker, which is a much better standard than Webster. Yours in the spirit of enterprise and improvement."

SOW SPRING WHEAT LATE.

REUBEN WHEELER, of Vergennes, Vt. having suffered the loss of his wheat crop, by the grain worm, for several successive years, adopted the practice of sowing his spring wheat late, and has in this way had fine crops, while the early sown grain has been uniformly destroyed by the worm. The same practice has been adopted by his neighbors, with like success.

CURE FOR THE SCAB IN SHEEP.

Mr. Wheeler also writes us, that his flock was so afflicted with scab, that he lost one hundred, and his fleeces were diminished 11 cents per pound in consequence of the diseased state of the animals. He cured them of disease, and restored his flock to fine condition, in which they still remain, by the following means. He boiled 8 lbs. tobacco in 8 pailsful water, down to 5 pailsful. To this he added five pailsful of weak ley from wood ashes, and one barrel of soft soap, and added soft water. Filling in part a half hogshhead with the liquid, he dipped into it 350 sheep, liquid being added as required. The sheep were, as fast as they were dipped, placed in another tub, and the liquid pressed out of the fleeces with the hands. The wash cleanses the skin from all scurf, kills the lice and ticks, promotes perspiration, and greatly facilitates the growth of the fleece and the health of the animal. There is no doubt of the utility of any application that destroys lice and ticks, and fits the skin, by thoroughly cleansing it, to perform its all-important functions. [Mr. W.'s order for seeds is sent to Mr. Thorburn.]

CURE FOR SLABBERING IN HORSES.

THOMAS PAINE, of Paine's Hollow, recommends, that when horses slabber, on being pastured in clover, they be turned into dry, or old pasture, or fed with hay or oats.

TO DESTROY ST. JOHNS-WORT.

Mr. Paine advises us, that he has fully succeeded in destroying this noxious plant, by cutting and burning the plants, thus destroying the seed, and then dressing the grounds with a good coat of plaster. The effect of this mode of treatment was, that where there was but little grass before, he obtained a heavy crop, and there was scarcely a stock of the St. Johns-wort to be seen. He advises sowing plaster early.

Washington county, Va. March 4.

The last crop of wheat in south-west Virginia was greatly lessened by the hard winter and Hessian fly, and rye was nearly a total failure. Oats and hay were a bountiful crop, and potatoes were never superior—one proprietor raised ten thousand bushels. This winter has been very unfavorable, very similar to the last.

Permit me to mention the mode of raising potatoes in our neighborhood, and it is the only mode in which we are successful. We plant our corn six feet apart, in rows east and west, and after the first dressing, we plant potatoes between the rows of corn, and afterwards dress both together. The corn crop thus shades the potatoes, and protects them from the meridian sun. We have seen a similar protection recommended for strawberries, by planting south of and near the strawberry bed a row of Jerusalem artichokes.

NOTICES OF CORRESPONDENTS.

G. M. Lewis, Scott's Ferry, is informed, that buckwheat, as a green crop, is a fertilizer of the soil. It may be sown at any season, or twice or thrice in a season, and turned well under when in full bloom—and the crop intended to follow it put in upon the fresh ploughed furrow. No cross or second ploughing allowed.

J. Dill, Newark, Ohio, wants a practical nurseryman, as a partner.—Mr. Dill's letter may be seen at this office, or he may be enquired of by letter.

A. B. C. who dates at Huntington, L. I. will find his enquiries relative to the locust, anticipated in our last number.

T. M. F. who dates near Cecilton, Md. will also find his enquiries, relative to a cob cracker, answered in our last. The cast iron bark mill, we believe, is generally used in the north for this purpose, by horse or water power. We have not the opportunity of knowing its price or performance. Maxwell's machine, we believe, is only a corn *sheller*. We are not familiar with the process of fermenting wines; but believe the practice is common, in some wine countries, as it is here with cider, to manage the vinous fermentation in open casks or vats; but in this way it requires close attention and discriminating judgment. The liquor should not be exposed to a high temperature, nor the fermentation permitted to run too far.—Twenty-four to 48 hours suffices for the juice of the currant and other domestic fruits. The liquor should be drawn off the moment it becomes clear, which is known, generally, by the cracking of the crust or scum which rises to the surface.

WEEDS.

L. Hebard asks us how to eradicate charlock, and D. Gaylord wants to know the best means of destroying the Canada thistle. Upon the latter subject the Cultivator contains ample instructions. Destroy their leaves, or lungs, and they will die. This may be done by frequent ploughing, say 4 or 5 times in a summer; by cutting them up as often with a hoe; by making dung heaps upon them; and, in a great measure, by cutting them low with a scythe at midsummer, when coming into blossom. Charlock, being an annual, is more difficult to get rid of. It infests clayey grounds, and its seeds often remain dormant a long time in the soil. The only practicable mode of eradicating this and other pests of annual growth, is to prevent the plants coming to seed, by carefully eradicating them when in bloom, and taking care not to sow seeds with our grain and grass. As regards weeds generally, we remark, that annuals and biennials, as sorrels, are destroyed by cutting over the plant below that whence the seed leaves originated, as this prevents them ever springing again from the roots. Perennials of the fibrous rooted kind, that is, those possessing only small slender roots, as the crowfoot, ragweed, and fibrous rooted grasses, may be destroyed in the same manner. Some fusiform (i. e. spindle shaped) rooted perennials, may also be destroyed by similar means; but almost all the thick rooted perennials, as dock, require to be wholly eradicated.

We have two requests upon our Jersey correspondent, A. B. C., to know how he contrives to make the large quantity of manure, which he speaks of, in yarding cattle. Will he please respond to these inquiries? Mr. Gaylord's enclosures will be noticed hereafter.

ECONOMY IN BREAD.

We have received several suggestions from correspondents on methods of economizing this important article of diet, by mixing with flour potatoes, rice, barley meal, oat meal, &c. These all abound in nutriment; but yet it may be doubted whether they acquire any additional nutritive property by the admixture, or whether they impart either nutriment or improved flavor to the flour. The greatest claim these admixtures have upon our notice is, that they seem to cheat our appetites, and make us believe, that while we think we are eating bread made from superfine wheat flour, we are in reality stuffing ourselves and our friends with potatoes, rice, &c. Altho' we like potato bread and biscuit, we nevertheless like the potato equally well, either as a substitute for or appendage to bread, when well roasted or boiled. And so with rice: it is excellent boiled or baked, plain or in puddings or pies. Barley, we are assured by a neighbor, makes good bread, hardly distinguishable from wheat bread; and we know that it makes excellent griddle cakes; and the Scotsman will tell us, that *nothing* adds to the value of good oatmeal. Perhaps there is no bread more healthy and economical, and none more palatable to many, than old fashioned New-England *rye and Indian*. An English economical society once sent over to Ireland for a man to come and teach them how to make *potato bread*. He came, and after being sumptuously entertained, proceeded to give his instructions to the society as follows: "Take the best potatoes, wash them well, boil them, and dish them up and ate them while warm and smoking, with mate or fish, as you like, or can get—that, says he, is the way we make potato bread in Ireland." Our correspondents will pardon us for thus treating their kind intentions; but really every good housewife has long been familiar with the modes of mixing, in the wheat-loaf, potatoes, rice, Indian meal, &c. We wish some of our southern correspondents would instruct the northerners, through our columns, in the secret of making *good* hominy and *warm* corn bread.

We are daily expecting to be able to give satisfactory answers to the inquiries of J. M. Garnet, Esq.

The Rev. Rob. Wilson, of Williamsport, will find his wishes, in regard to planting, pruning, &c. in a great measure anticipated in our last No. We should recommend autumn or winter planting in the south, particularly if the trees are obtained from the north.

Mr. Todd will find answers to his queries, in regard to the hop culture, under correspondence, in the communication of Judge Cheever.

We have received an interesting account of the agricultural exhibition at the Big Lick, Ky. which we are obliged to decline publishing in detail, for the reason, that the numerous societies among the members of which the Cultivator circulates have an equal claim to our columns, and that it would be impossible to publish all of their proceedings. The exhibition was remarkable for the number of fine horses, and cattle of improved breeds brought on the ground, and shows that great attention is there paid to blood, as both horses and cattle are mentioned by name, and their pedigree scrupulously detailed.

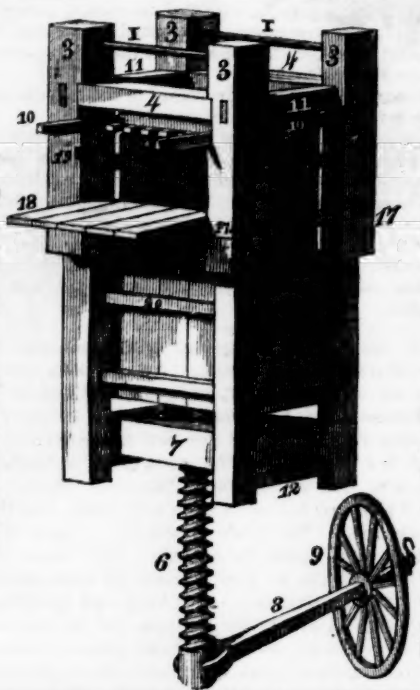
Prejudice and conceit are the offsprings of ignorance, and the great barrier to agricultural improvement. An African prince threatened to take the life of a traveller, because he dared to assure him, that water became solid by freezing, in his country.—Because he had not seen it, the prince deemed the traveller an impostor and a liar. A few years ago, the growth of a hundred bushels of corn on an acre was considered a fabulous tale by the mass of our farmers. They had not seen such a product, and they therefore did not believe in it. But such a product is now of so common occurrence, that few doubt its reality. Tell these men that they can double the products of their farms, by economizing and judiciously applying their manures;—that they can quadruple it, by this, by underdraining, by alternating crops, and by root culture—and they are as incredulous as the African prince, because they are ignorant of those natural laws which ever have governed the material world, and which ever will govern it. The savage laughs at and rejects the arts of civilized life, for the same reason that the ignorant or indolent farmer scorns the idea of improving the condition of society by agricultural societies, agricultural schools and legislative bounties for agricultural improvement.—They either do not know enough of natural science, to comprehend its utility in the ordinary business of life, or they are governed by a sordid, selfish, illiberal policy, which, could it be carried out, would shut out every ray of light, and smother every sentiment of patriotism, which should either thwart their views, or which would tend to elevate their fellows above their own limited standard in society. Some men seem to have an idea, that they are balanced in a scale; that as others can be made to sink, in the same proportion they shall rise, and vice versa. The first requisite to improvement, in any business, is the conviction, that we *can* learn; the next, that we *will* learn. And it perhaps is invariably true, that the more we *do* learn in useful knowledge, the more we become sensible of our comparative ignorance, and the more we are anxious to learn. This results not only from a wish to serve ourselves, and multiply our enjoyments, but from a sense of sacred duty to society.

The Contrast.—Massachusetts gives nothing from her public treasury to sustain her common schools, but she gives bountifully from her public treasury to sustain and encourage her agricultural societies, and is now about making an *agricultural* survey of her territory. Her schools are surpassed by none in the Union. New-York has given millions to her colleges, and millions to her common schools; but she clenches her purse with a convulsive gripe when she is asked to aid and encourage agricultural societies.—If it is true, that wisdom lies between two extremes, these states might learn from each other.

Fat Mutton.—Half a dozen of Dunn's New-Leicester sheep were lately butchered, and the mutton exhibited in our market, which excited the admiration of all who saw it. The total weight of the six carcasses was 810 pounds, averaging 135 pounds each. One carcass and a haunch were sold to a gentleman of N. York for \$51.25. We have heard of several of this breed of sheep being sold, this year, to the butcher, at \$20 and \$25 each.

Errata.—The reader is desired to correct two material errors in our last, viz. p. 7, 2d column, 24th line, read "Winter pruning bares to the sun;" and in p. 8, 2d column, read the two last lines preceding the tables as follows—"else—(20+27=540) by the number of heaps—193—and the result shows that each heap should contain 2.79-100th bushels."

LAMPMAN'S HAY PRESS.—Fig. 6.



This is a figure of the Press recommended in our March number, by Judge Van Bergen. It consists of four upright posts strongly framed together, within which is a chamber of stout plank, of the size of the intended bundle of hay. The press is firmly fixed between the lofts of a barn, the hay being thrown in above, and the horse power applied to the sweep (8) and screw (6) below. The sides of the chamber are opened to remove the pressed hay, by doors hung upon rollers, (15) and the upward pressure of the screw, is resisted by a strong cap (4) which is pushed back or forward at pleasure.

the outlay. The increase of crops has paid the expense in two years, enabled me to pay a higher rent, and yielded me a proportional increase of compensation for my labor."

To give an idea of the importance attached to draining, I will state that notwithstanding the extent to which the system is carried, even exceeding in some instances the example above given, I saw it stated in one of their public journals, that "there probably is not a well drained parish or farm, even in the Lothians." Excepting a few isolated farms, I believe it to be strictly true; for I saw many districts where this improvement was still in progress—some farms on which it was just commenced, and others where it was apparently not yet thought of, though it appeared to me to be equally needed, and which, as I was told, were naturally as good as any, but for want of draining brought only half the usual rent, and "give the tenants but a hard life of it." The proprietor, in consideration of the low rent, thinks the tenant ought to make the improvement; the tenant, in view of the scanty product, and perhaps in prospect of a rise of rent at the expiration of his lease, would throw the whole burden on the landlord—and both, mistaking their true interest, agree to get what they can from the land with the least outlay. The land, in its turn, requites this unkind treatment, by yielding each succeeding year a more scanty crop, and in the end blights the prospects of both proprietor and cultivator.

I am aware that objections may be raised against draining here to the extent which is practised in the north of Europe. These objections may be embraced under two heads:

1st. The climate and the nature of our agriculture are different, and do not require the same management; and

2d. The expense, arising from the high price of labor, and the comparatively low price of agricultural products, in a country having a sparse population.

Having already extended this paper beyond my intended limits, I have not time now, nor do I deem it necessary, to go into detail to answer these objections. Suffice it to say, that the rains of autumn and spring, together with the reduction of temperature during winter, render draining equally as necessary in the northern states as in the north of Europe; for I conceive that full half the beneficial effects of draining are referable to the temperature of the soil which it produces. Plants, as well as animals, have their habits, predilections and antipathies, which must be studied and consulted, if we would cultivate them successfully. Such as grow in water or cold springy ground, are mostly useless as food for animals, while those that are most useful to man and beast prefer a warm and dry soil, and some even require the additional aid of high atmospheric temperature to bring them to perfection. Indian corn is one of this kind. The uniform failure of this crop in our cold summers, is a fact of general observation; and although you may grow a spindling, dwarfish stalk, with a diminutive ear, on a cold and wet soil, it never luxuriates as in its proper element, unless its roots as well as its top are surrounded by an elevated temperature. The want of solar heat may be supplied to a considerable degree by thorough draining, and ploughing in *unfermented* manure. The secret of Mr. Reybold's large corn crop (see Cultivator, vol. 3, page 34,) lay in the "long manure," ploughed into a soil that is by nature loose and dry, and left there undisturbed to ferment. The fermentation of the manure warms the soil, and assimilates it to its own nature, and the gases set at liberty pulverize and loosen it in their ascent, and also furnish an abundant supply of nourishment for corn and root crops, &c.

As to the expense, with such as hold the six-pence so near the eye as to conceal a dollar at arm's length, this is an insuperable objection; but as they are not the persons to pay 50 cents for your paper, it would be lost labor to argue the point with them, through that medium. It is true, the price of labor here is something more than it is in Scotland, but the price of produce at present is more than proportionably high. I saw beautiful wheat sold for 4s. and 6d. sterling (\$1.) when the price here was \$1.50. The large importations of foreign grain of late is a sorry commentary on our agriculture, and should stimulate our farmers to improvement. The American farmer has in the tenure by which he holds his lands, a security for any expenditure in the form of improvement, which the English or Scotch farmer has not. The former is generally the lord of his domain, and whatever improvement he makes increases the value of his land and his fast capital, while the latter is obliged annually to disburse, in the form of rents and poor rates, a sum nearly or quite sufficient to make the improvement under consideration. I would say, then, away with the parsimony that would starve your farm. See that your title deeds are valid; remember that if you double the product of your lands you double their value, and that the money you lay out for that purpose, is more safely and more profitably invested, than it would be in any bank or stock company.

Corsackie, Feb. 16, 1837.

A. O. SPOOR.

HOP CULTURE.

H. TODD, of Dover, Del. having inquired of us in relation to the culture of hops, we have asked and obtained from the Hon. S. CHEEVER, the following answers to the queries propounded. We only add, that the sets may be obtained from Judge Cheever, if application is made early.

JUDGE BUEL—Mr. Todd's note to you, inquiring in relation to the cultivation of hops, is before me. He inquires,

CORRESPONDENCE.

UTILITY OF DRAINING.

JUDGE BUEL.—DEAR SIR—Perhaps enough has already been said and written, of the wonders wrought by thorough draining, to convince the most sceptical of its beneficial effects on lands that really need it. But when I look around me, and see so much of the extensive and beautiful plains of this neighborhood yielding but a scanty return for the labor bestowed on them, and a considerable portion of them almost entirely unproductive, for want of this simple improvement, I feel that I shall not trespass on the patience of your readers, and may perhaps render them a service, by stating some facts that have fallen under my observation, in an agricultural tour through the British isles, &c. during the past year.

At present, I shall only state what I saw on a single farm, near Stirling, in Scotland, and the conversation I held with the intelligent occupant.—His farm consists of 200 Scotch (equal to 250) acres, most of it so level that it was with great difficulty, and only by digging a moat of nearly half a mile in length, from 6 to 8 feet wide at the surface and from 4 to 5 feet deep, that he was enabled to make an outlet for the drains. The soil is a stiff loam, or alluvial deposit from overflowings of the river Forth; the subsoil a tenacious clay; the whole farm is underdrained with tile, at 18 feet distance from each other, and about 2½ feet below the surface; the drains are formed by a flat bottom or sole, and an inverted trough, both made of earth and well burnt. When adjusted, they form a drain of about 12 to 15 square inches; the joints of the tiles are covered with straw or swingle tow. From the mouth of each of these drains the water was seen issuing in little rills into the common receptacle, the large open ditch or moat above mentioned, through which it was discharged into the river.

The stock yard, embracing an area of about half an acre, was also underdrained, and the surface perfectly dry, notwithstanding the continual rains of winter, which saturate the earth, and, were it not for the underdrains, would convert it into mud of great depth, by the treading of the teams in carrying the grain to the threshing machine.

Drains are also filled with rubble stone, where these are at hand; but where the stone has to be carried any considerable distance, so as to make the expense nearly equal to tiles, the latter are preferred, as being on the whole the best. He estimated the expense of tile draining, 18 feet apart, at 5 or 6 pounds the Scotch acre, (\$22.20 to \$26.66) but was unable to tell precisely the amount, the work having been done at intervals, and the tiles paid for by his landlord. In reply to my remark, that it was a costly improvement, he said, "But it costs a deal more not to do it"—which he illustrated, by pointing to an adjoining field, that had not been underdrained and was grown over with rushes. "My farm, (said he) before it was underdrained was also full of rushes. In spite of my best efforts in tilling and seeding, the rushes would supplant the grasses by the second or third year; but not one has been seen since my farm was drained. The expense of draining was a matter of mutual understanding between my landlord and me, and has proved a benefit to both of us. I have obtained an extension of my lease, and my landlord a higher rent in prospect, both of us looking to the prospective increase of product for a reimbursement of

1. What kind of soil is best suited to their cultivation?
2. How are a large number of plants to be obtained?
3. What is a fair average price in our market?
4. What the mode of cultivation in those countries where the cultivation has been most successful? with any other useful information upon the subject.

I have been in the cultivation of hops for the last ten years, upon alluvial soil, which I consider well suited to their growth; but I am not certain that the fogs which prevail in the neighborhood of rivers and smaller streams, do not injure them as they approach maturity.

1. Ans. Any good land with loose subsoil which will produce Indian corn or wheat, will, with proper cultivation, produce hops. The less exposed to violent winds the better, as they are liable, when near maturity, to be bruised, and the branches broke off, from high winds.

2. Ans. The sets or plants are obtained from fields in cultivation, by removing the head of the root and upper branches which form near the top of the ground.

The English set only the head of the root, which is larger and of course has more vegetable strength, and produces a more vigorous plant. The cultivators in this country have been less scrupulous, and use both the head of the main roots, and also the branches or runners, to set.

These sets are obtained without much expense, and a field at the spring dressing will furnish sets for a new field of about the same size.

3. Ans. The price in our market has varied from five cents to fifty in the last eight years. In 1827 the price was very fair, from twenty to twenty-two cents per pound. They then fell down to ten cents, and lower, and remained very low until after the cholera prevailed in France, in 1831 and 1832, when an order was issued by the French minister of war, directing rations to be issued to the army in beer, instead of wine—the effect of which was, to raise the price of hops again in this country to 20 cents, at which they stood for two years, 1833 and 1834. They then declined to 12, to 14 cents, in 1835, and in 1836 down to 6, to 10 cents per pound, at which the last crop was sold. France and Germany now grow them in quantities nearly sufficient to supply their own demand, and there is no probability that the price will again advance here until the quantity is reduced, either by reducing the fields of cultivation or by a failure of crop. The quantity produced in this country now by a good crop, is about two fifths more than the home consumption; and as there is no prospect of a steady demand for exportation, whoever cultivates hops in this country hereafter, must expect to do it at a loss, unless some unforeseen change shall occur in the market.

4. Ans. The ground should be prepared in the spring, in a manner similar to preparation for a corn crop, and marked out in rows each way, by a line or otherwise, 8 feet apart, and set with or without manure in the hill. The sets, which should be cut about 4 to 6 inches, may be laid down horizontally, say 2 or 3 inches apart, or set in perpendicularly, by making a small hole in the ground with a sharp stick, then forcing the earth around them, putting 3 to 5 in a hill, in proportion to their size and apparent soundness and strength.

The field may be planted with corn between the rows the first year, as the hops require no pole, nor do they produce any crop. They require poling the second spring, with poles from 20 to 28 feet long, according to the strength of the hill, two and three poles to the hill. As soon as the vine is of sufficient length, it is coiled around the pole, and tied with a rush or blade of coarse grass, putting two and sometimes three vines to each pole, and the other vines pulled out, that the whole strength of the root may pass into the vines on the poles.

The ground is ploughed between the rows and kept clear of weeds, as in a corn crop. The third spring, and every spring after, the hill, which should be formed around them in the summer dressing, is reduced to the level with the ground, or a little lower, and the upper branches and head of the main roots laid open, and cut off with a knife, to prevent their spreading beyond the hill.

The crop is usually matured by about the fifth of September. The vine is cut near the ground, the pole taken down, and the hops picked by hand into a bier, and then taken to the drying house and dried upon a kiln, and after laying a few days after coming from the kiln are pressed and secured in canvass, and are ready for market.

The expense of cultivating an acre of hops and fitting them for market, is from fifty to eighty dollars, including the decay of the poles. The expense of a drying house, with suitable kilns for drying eight to ten acres, with cooling room and press for packing them, will be from \$300 to \$800.

There are many details to be observed in the cultivation and curing of hops, which would require too long an article to give.

I remark generally, that the crop is a very uncertain one, and the market more fickle than that of any other article of agricultural production.—With a good crop and good market, it is a good business; but without both, it is not as profitable as an ordinary grain or hay crop.

S. CHEEVER.

IMPORTANCE OF AGRICULTURAL JOURNALS.

J. BUEL, Esquire—DEAR SIR—Finding it troublesome to send the amount of one year's subscription every year, I enclose you five dollars,

which you will please place to my credit, and call on it as my agent for my annual subscription, so long as it lasts.

Permit me to express my approbation of the plan of your Cultivator. It is calculated to become an organized system of mutual instruction. It wants but one thing, in my opinion, to render it complete; that is, the privilege of receiving your letters and communications free of postage. This, no doubt, would increase the number of communications, from which you could select, digest, and disseminate to your patrons, increased information.

This boon I thought so small for congress to bestow, and the prospective advantage to agriculture so great, that I wrote to a friend in the senate, to suggest to their chairman of the committee on agriculture the advantage it would be to the husbandry of the United States, to have a law passed, extending to the editors or conductors of periodical papers exclusively agricultural, the privilege of receiving their letters and communications free of postage. He did so; but unfortunately the chairman of that committee was from North Carolina, and so the matter ended.

But the agriculturists have it in their power to cause themselves to be heard at the seat of the general government. If you, through the columns of the Cultivator, would suggest the advantage of such a measure, and advise the forwarding of petitions to congress at the commencement of their next session, if they should only be signed by the patrons of the Cultivator, there is little doubt but they would be attended to.

It is high time the agriculturists of the U. States should assume their proper station amongst the other interests of this extended republic. From their dispersed situation, and having no rallying point round which to concentrate their united force, they have heretofore been treated as the hewers of wood and drawers of water for the other interests, especially the mercantile interest, who have been the pets and have had the patronage of the general government ever since its commencement. They have their Chambers of Commerce and their Boards of Trade, through which they can bring their united force to operate to the attainment of their object. Let the farmers, thro' their agricultural societies and their journals, unite themselves for their own interest, and make their power be felt.—They are the bone and sinew of the country, and yet have been more neglected by government than any other interest in it.

From whence comes the present insidious attempt to injure our manufactures, by taking away their protection, but from the merchants, and that, too, under the hypocritical pretence of sympathy for the burdens of the people? Do not congress know, that for every cent the farmer pays for protection, he receives two, by the increased variety, greater demand, and higher price for his productions? If those men are not capable of devising a way to dispose of the surplus revenue without ruining our manufactures, let them act like honest men, resign and go home, and give place to men of sound practical sense—one ounce of which is worth a cart-load of those brilliant talents which shine, but vivify not.

If the patentees of those lately invented machines, such as Green's Straw Cutter, the Drill Barrow, and many others, would cause their machines to be made at Pittsburgh, they would find it to their advantage, as from thence the whole western and south-western countries would be open to them for their disposal. To procure them from east of the mountains, would not only be attended with trouble, but considerable expense; whereas, if they could be had at Pittsburgh or Cincinnati, few farmers in the west would be without them. There is at Pittsburgh a firm of Messrs. Evans, who own an extensive foundry, and are in the practice of making agricultural implements. I have no doubt but they would undertake for the patentees. When in Pittsburgh last summer, Mr. Evans inquired of me how he could procure the new invented utensils of husbandry. I recommended him to take the Cultivator, in which he would find them described and the patentees' names. I gave him your name and residence.

Thus, sir, I have given you some crude thoughts, on what I believe would tend to benefit the farming class; but of this you are the best judge, having thought more deeply on the subject, and being in a situation from which you have a better view. One thing I must repeat—that the agriculturists must cause their power to be felt, before their interest will be attended to.

I am, dear sir, with respect, yours,

Vincennes, Feb. 8th, 1837.

N. EWING.

FRONTIER FARMING—LONG MANURE.

Champion, February 24th, 1837.

J. BUEL, Esq.—SIR,—Having redeemed a farm from a forest, I have thought perhaps it might be acceptable to some of your readers to know the result of thirty-six years' experience, from the clearing of the timber from the land, until the stumps and roots are decayed and gone. Very little system has been pursued; most generally, the first cleared land has been seeded to grass, while other lands have been cleared and kept under the plough with a succession of crops; but others that have cleared more extensively, have made a uniform practice of seeding all their lands as fast as cleared, and letting them lie until the roots become rotten, so that they can plough to advantage. But when the stumps and roots are gone, the farmer finds that his land assumes a new aspect, becomes less productive, and that something must be done. Many at this juncture suppose their farms are worn out, and they conceive they have no means to

restore them; accordingly, they sell for a trifle and remove to the west, where, it seems, they suppose there will be no need of exertion or labor. But I ask, is there no way whereby our farms can be kept up, or restored to their former productiveness? I answer, economy and good management will effect it. Manure is as necessary to the productiveness of land, as food is to the growth of animals. But many farmers complain for the want of the former, and their cattle in many instances show the want of the latter. This has been my situation, and the situation of most of farmers in this region; but I hope we may grow wiser on this subject. Manure is as necessary for the farmer as money is for the merchant or speculator, and there has already been much written on this subject: yet it appears that many are not convinced of its importance, or act contrary to their own conviction. If manure is necessary, and we suffer for the want of it, why cannot farmers be persuaded to manage economically concerning the subject? Why let their manure lie about their barns and yards, from year to year, to the destruction of their barns and fences, a constant nuisance, and detrimental to health and comfort? Or why, when the heap becomes intolerable, and is half or more wasted, draw it off and deposit it in large piles at the setting in of winter, to be exposed to the drenching rains, snows and frosts of winter; to be rehealed in the spring and spread upon the land, when at least two-thirds of its nutritious properties are exhausted? Or why let their cattle bask over their fields, from the barn to the stack, and from the stack to the watering place, leaving their droppings and urine scattered over from ten to fifty acres of land, to be dried and lost by the winds of April? While their cattle suffer for want of housing, and their land is trodden and injured by their feet; also a vast extra expense of fodder, and a loss in the condition of their stock? I ask, why is it that many farmers complain of the want of means, and are so negligent in employing the means which they do, or might, with little trouble and expense, possess? Whatever may be the cause, it is evident that farmers of this description, (and there are many of them in this vicinity,) "do not work it right." If you ask, "how should I work it?" I will tell you some things you can do to your advantage. House as many of your cattle as possible, and feed in mangers or racks; let your cattle, that must lie out, have a comfortable yard and shed adjoining your barn; let your stables be kept clean, and the refuse fodder from the mangers be thrown into the yard, your cattle fed in the yard once or twice in the day, (in suitable weather,) with straw or other loose fodder, which will form a mass sufficient to retain and absorb a large portion of the droppings and urine from your cattle. When you have made arrangements for saving manure, be careful that it is not wasted, see that it is drawn and applied to your land in the spring; perhaps the most economical application is to corn and root culture, but all your spring crops will be much benefitted by it, and if you have a surplus, you will not lose it, by applying it to your mowing fields. Your objections, that it is too coarse and not rotten enough, are ill founded, which I learnt by an experiment, more than twenty years since: I had removed and located myself on a different part of my farm, and was preparing a newly cleared piece of ground for a garden; having heretofore supposed, that fermented or rotten manure only was suitable for a garden, I drew from the site of my old barn and manured about half of my plot, but it being some distance, and having a supply of fresh manure from the horse stable, I applied the fresh manure to the remainder of the garden plot, and was much disappointed to find that the fresh manure was altogether the best; the application was made on a dry sandy soil. One other experiment I will mention, which is no fiction. I had a piece of ground in my mowing field, I should think about an acre, left rough when ploughed several years ago; wishing to smooth it and not to plough it, I went with a sharp hoe and cut off the bogs or hummocks, gave it a slight harrowing, and piled up the turfs thus cut off, and carried on twelve loads of manure, fresh from the barn yard. At haying time I found it some improved; but not answering my wishes, I determined to proceed further. The last spring I caused it to be sown over with gypsum, (plaster of paris,) and at mowing, I found an extraordinary large crop of first rate hay upon it, more, I presume, than had grown on the same piece of ground in four years before. The turfs cut off and piled were carefully spread out the fall after cutting, so that now, instead of a rough hammocky, unproductive piece of ground, I have a smooth, rich, productive one, that will produce, probably, three tons of good hay; and this at the trifling expense of cutting off the bogs, piling and spreading twelve loads of manure and a dressing with plaster of paris, perhaps one bushel. The soil of the above mentioned piece of ground is a sandy loam, upon the margin of (what we call) a dry brook, naturally good, but by not being well cultivated when ploughed, and but poorly seeded, and not having an application of manure or plaster, it was completely bound out. If any of the readers of the Cultivator have lands in this situation, I think they may expect like results from the same application.

A JEFFERSON COUNTY FARMER.

BEET SUGAR.

ROYAL AND CENTRAL SOCIETY OF AGRICULTURE.

Report in the name of a special commission composed of M. M. Le Baron de Sylvestre, the Duc Decazes, Count de Chabrel, Dar-

blay, Crespel Delise, and Payen, reporter, with practical instructions, and prize questions on the extraction of sugar from beets, adapted to rural establishments, and the means of improving and forwarding this branch of industry, made in 1836.—[In continuation.]

[Translated from the French, by Dr Spoor.]

The liquid separated from the solid sugar by decantation, and the remainder by the press, is diluted with eight parts of water, and mixed with cut straw or hay, which is left to soak for twelve hours. It disengages a little alcohol and carbonic acid; and is then a good food for horses, cattle, and sheep. It is improper to give it to animals without dilution, especially to swine; these swallow it with such greediness, as to surfeit and kill them. Competitors should make experiments, with a view to determine whether the molasses could be profitably returned to the fresh juice, and thus subjected to one or more operations. The last molasses, which is sold for from four to eight francs the 100 kilogrammes* to the manufacturers of white lead and alcohol, is sometimes otherwise employed with advantage, and it would doubtless be possible to find still other uses for this residue.

Reviving the animal charcoal.—This operation is now generally performed in the manufactories, and is indispensable at least in every centre of manufacture. There are several new processes which, apparently, might be used with success, even on a small scale; trials ought to be made to discover which are the most simple, the most economical, and whether, as has been lately proposed, the residue to be revived, and the bones which are collected in the neighborhood, can be treated in the same furnace.

Refining, by draining, or by clarifying sirup.—A simple draining, taking place spontaneously, in a place somewhat damp, is sufficient to prepare raw sugar for ordinary consumption. The drying is promoted by spreading the upper portions, that are best drained in thin beds or strata, upon shallow vessels, or shelves, or cloths. A mode of refining more efficacious, and more prompt, consists in preparing a clarifying sirup of the strength of 32°, by dissolving some raw sugar in water, then clarifying it with fine charcoal, and filtering the sirup through some coarse charcoal, leaving it to cool, and pouring, by small portions at a time, the clear sirup thus obtained, over the surface of the loaves, which it is well to have previously covered with a little moist wool. The same result might perhaps be more easily obtained by moistening or impregnating the raw sugar with sirup, and pressing it frequently. It is of importance to examine which is the best mode of proceeding.

In many districts, farmers will find great advantages in uniting at some central point, and managing their entire crops of beets, the residue of animal charcoal to be revived, as well as the bones to be calcined. There are several instances which leave no doubt on this subject. But to render these associations the most useful they might be, it is expedient to determine which, among the numerous apparatus lately constructed, are those which, without being too complicated, offer the greatest facility in the division of labor, and require the least expense for the extraction of the juice, with respect to a given weight of sugar to be obtained. It is not improbable, that the celerity already obtained in the different parts of the manufacture, the defecation, and the different degrees of concentration, and boiling, may be surpassed, or that the advantages of celerity, as well as the facility of constructing and using the necessary utensils more economically, may yet be realized.†

The society of agriculture having unanimously acknowledged all the importance that belongs to the solution of the different problems relative to the improvement of one of our most delightful agricultural employments, and the great utility of rapidly extending throughout the country the economical manufacture of domestic sugar, has determined that a competition should be excited, and that several premiums and medals should be offered to attain this end. In consequence of which, the following instructions and prize questions have been adopted.

PRACTICAL INSTRUCTIONS ON THE MANUFACTURE OF SUGAR FROM BEETS, FOR THE USE OF SMALL COUNTRY ESTABLISHMENTS.

Utensils.—We have given, at page eight, the names and places of residence of the principal mechanicians, with whom these utensils, properly constructed, may be found.

Graters of casting, fixed on a strong wooden frame; they are solid and easily repaired by the aid of a spare set of toothed plates.

Presses with wooden or iron screws.—The important parts which must be procured in the large towns, are the screw and beam, or nut. The frame work of solid wood may afterwards be built by a wheelwright or carpenter, either after a small model, or like a wine press; or we might even use the latter and increase its power, by limiting the extent of the place

* Equal to 75-100, or \$1.50, for 220 lbs.—TR.

† In the new *Maison Rustique*, published in separate numbers by MM. Bailly de Merlieux and Malpeyre, may be found the description of all the utensils, and different apparatus, employed according to the different systems in use.—Address Quai aux Fleurs, No. 15 Paris.

on the platform to be occupied by the pulp, the cloth and the hurdle, to two feet square, and heaping them up to the ordinary height.

Square pieces of coarse cloth or canvass.—These squares of strong but thin cloth, serve to wrap up an enclose the pulp, to keep it under the press. Two of them are laid down side by side, and the pulp is enclosed and piled up by crossing their points.

Knife and table.—A common table with narrow strips nailed on the edges to raise them, and then gently inclined towards the only side where the strip is wanting, will answer for spreading the cloth on, and enclosing the pulp. A roller, or rolling pin, similar to those used by pastry cooks, serves to smooth down the enclosed pulp, and a bucket placed under the fore part of the table receives the juice pressed out by the rolling pin.

Hurdles of willow or lath.—These flat hurdles, somewhat larger than the cakes of pulp enclosed in the cloth and pressed down, may be made of osier, or still better of lath, united to move at half an inch distance from each other with iron or brass wire. They may be strengthened by a plate of tin, to bind and enclose the ends of all the laths.

Buckets.—These are well known utensils, which may be made more solid and convenient by substituting iron for wooden hoops.

Boilers for clarifying.—Any large boiler may suffice, provided it can be made to boil in a very short time. It is preferable to have it set over a furnace, and that it has an opening near the bottom, furnished with a cock to facilitate the exchanges from one vessel to another.

Filters.—A bucket having a double bottom, the upper pierced with holes, and placed about an inch above the lower one, will very well answer for this purpose. A clean wet cloth is placed on the false bottom, coarse animal charcoal also moistened, is then put in, to the height of twelve or fifteen inches, in five to eight layers, with cloth interposed, throwing in carefully layer upon layer, covering the whole with a clean wet cloth, which is kept in its place by the aid of another board pierced with holes. The filtering takes place in the same manner as ley.

Pans for evaporating and boiling down.—These pans ought to be shallow, and furnished with handles for convenience of pouring out. They ought to evaporate three-quarters of the depth of the liquid in the time occupied by purifying the juice.

A skimmer.—This is a well known utensil. It may be made of tin or copper, and two or three times larger than the common family skimmer.

Pails.—Common wooden pails may answer; they are more convenient and more durable if made of copper.

Ladle.—This is a large ladle, which is more convenient if made to hold from one to two litres of liquid.*

Pot or coffee burner to revive the animal charcoal.—A cast iron pot, wide and shallow, that will admit of stirring the contents with a crooked stick, passed through a hole in the lid, will serve for this purpose; we may also use a large coffee burner.

Wooden moulds.—These vessels are made of wooden staves bound with wood or iron hoops, or we may even use pails or kegs, open at one end, and the bottom of which should be pierced with gimblet holes. The moulds or the kegs may be placed on props over pots and earthen pans, to receive the draining sirup or molasses.

Variety.—The white Silesian, and the yellow Castelmendary beets, are the kinds that are preferred. The first is more generally employed; its juice is more easily treated and generally the most pure.

Stripping the leaves.—When we give the beets the last hoeing, it is convenient to take off the leaves nearest the ground, which would soon spoil, and which moreover furnish a useful aliment for cattle.

Pulling or taking up the roots.—At the period of maturity, and even some days before, the beets are taken up to supply the first operations of the manufactory, and in order not to house any till it is to be feared, that in waiting longer, we may be overtaken by rains, or frosts. All those which we intend to pull up, ought to be first deprived, on the spot, of all their leaves and crowns, to be used immediately as food for cattle, lest they should become dirty by mixing with the earth. If we cannot feed the whole of these prunings, we should bury them on the spot, as they make an excellent manure for the soil.

Storing the roots.—We may preserve in small heaps, out of doors near the manufactory, and in barns, or even in the fields in small piles, covered with eight inches of earth, all the beets which we suppose we can use before the hard frosts, the overplus is housed or covered in ditches of from three to six feet wide, of the same depth, and of any length. It is well to leave a partition of earth at intervals of twelve feet. (Any other sheltered place is proper to preserve beets.)

The beets are put down with some precaution to avoid as much as possible bruising them. When the trench or pit is heaping full, they are covered with twelve to eighteen inches of compact earth, which is heaped up so as to be shelving both ways. At intervals of five or six feet from each other, in the middle of the ditch or pit, fascines or bundles of brush are put down, extending a few inches above the covering of earth. The trench is broken open at one end, to take out each day the quantity of beets to be manufactured.

Cleaning the beets.—This operation is very simple. It is sufficient to

rub the beets against each other in a vessel half full of water, with the aid of an old broom, or shaking them in a basket plunged in water. In soils which are not too compact, dry scraping with a knife may take the place of the washing, removing the greatest part of the earth and adhering stones.* In light soils, free from stones, the beets are often fit for rasping without any cleaning.

Cutting off the crown of the beets.—In the small establishments, especially when the neck of the beet has not been cut at its base before rasping, the cortical part of the head is cut off by three or four slices with a knife, in such a way as to leave it of a conical form, and to remove the parts where the leaves were attached, which are the hardest, and contain the least sugar. These parts carefully preserved, are used with the small roots and pulp, of which we will speak hereafter, as food for cattle.

Rasping or grating.—This operation is very simple. If it is done by hand, two men relieve each other, one turning the crank, while the other pushes the beets gradually against the cylinder with the hand, or a wooden shoe.† When the rasp is connected with machinery, and put in motion by cattle or horses, or any other power, a single person is occupied in holding the beets.

Pressing.—The pulp is enclosed in clean cloths, the corners and edges of which cross each other, so as not to allow the pulp to escape in consequence of the pressure. Some of the juice is pressed out by passing the rolling pin over the pulp thus enclosed. Then the cloths filled with the pulp are flattened down, and successively piled on the platform of the press, separated from each other by a hurdle, described page 15, to the height of two or three feet.

At first, the pressure is very gently applied, then with greater and increased force, until no more juice can be drawn from it. The press is then unscrewed and another pressing commenced. The liquid obtained is immediately subjected to the process of purification. The residue of the pressed pulp may be turned to profit, not only by immediately feeding it to sheep, oxen and milch cows, but a great part of it may also be preserved without difficulty as fodder for future use, by drying it on metallic plates, or in an oven. The dried pulp may also be kept, if desired, in sacks or casks. It should be moistened with a little water before it is fed to the animals.‡ The pulp is also preserved by collecting it daily, and laying it up in a cistern or a hole dug in the earth, and covered with a roofing of straw.

Purification with lime.—It is well to try on a small scale the quantity of lime which it is best to employ. It should be just so much as, after being mixed with the juice, heated to a degree that is insupportable to the finger, and then carried to the point of ebullition, gives a strong foam, leaving, after some minutes of repose, the liquid limpid, but without the peculiar acrid taste of lime. In general, at the commencement of the season, (from the end of September to November,) we may employ from three to three and a half kilogrammes of lime for each 1,000 litres of juice.§ This dose of quick-lime is extinguished with hot water, by pouring on a little at a time, as fast as the lime slakes and falls to powder, and in such a way as to obtain a perfectly uniform mixture, fine and without lumps. In all there must be enough water added to make a clear milk, which will be about eight times the weight of the lime. The juice, heated as we have just said, is stirred, and the milk of lime poured in. It is then briskly stirred for three or four seconds and left to heat without further agitation, until the first bubble appears. The fire is then instantly covered up, or the boiler removed. It is left at rest for six or eight minutes, and then drawn off clear.

Racking off, draining and using the scum and deposit.—The clear liquid is drawn off by a cock, or poured by inclining the boiler, into a bucket, or reservoir, out of this it is poured, or dipped with a ladle, a little at a time, upon the filter. The scum and dregs are left to drain off through a cloth, or what is better, put into bags of cloth, and subjected to the gradual pressure of a lever press, and in the end employed as manure, after being dried with powdered lime, and then spread on the soil.

First filtering.—The liquid, filtered like ley through the coarse animal charcoal, is immediately poured into the pan, when it is evaporated as rapidly as possible. We may add to it the fine charcoal which was separated from the coarse in the revivifying process, to be hereafter described, and which is taken off partly with the scum. This is added to a second purification, (defecation.)

Evaporation.—The evaporation is kept up, and accelerated as much as possible, by increasing the fire and stirring the liquid with a skimmer un-

* When the beets are forked, it is useful to break off the little roots, which might retain stones between them, lest these should break the teeth of the rasp.

† Such as are worn by the laboring classes on the continent of Europe.—Tr.

‡ A part of this pulp may be converted into a coffee similar to that made of sucory. It is sufficient to toast it like coffee, and then grind it. It is made more agreeable to the taste by returning it, after it has become cold, into the coffee burner, (bruloin) containing about one-quarter of its weight of coffee nearly toasted, shutting up the burner, and mixing the whole thoroughly, away from the fire. The mixture is then ground in a common coffee mill. This practice has already extended to some districts in the north of France.

§ From 6½ to 8 lbs. of lime to 250 gallons of juice.—Tr.

* The litre is about equal to a quart.—Tr.

til three-quarters of the water is carried off. It is then poured into a bucket, from which the liquid is made to pass through a second filter, prepared as the first. During this time the evaporating pan receives the juice of a second purification.

Second filtering.—This second filtration is the same as the first; but when it is finished, the same filter serves for passing the juice of another purification, after which only a sufficient quantity of water is poured on to wash out the whole of the saccharine liquid.

Boiling down the sirup or drying.—The evaporated sirup, which has been filtered a second time, may be kept for several hours without undergoing much change. It is, however, best to finish the evaporation. It is this last ebullition which is called the *boiling*, (lacuite,) or drying. It is not difficult to perform if the purification and the two filtrations have been well managed, and if a sufficient quantity of animal charcoal has been employed; as this charcoal is not expensive, and as its properties may be restored by calcining it again, it is best to employ in each filter six kilogrammes for 100 kilogrammes of juice. Every operation will be facilitated by the depuration which it produces. The boiling will be well and speedily performed in a pan of a round or square form, and very shallow; not more than two inches in depth of sirup should be put in, and it should be made to boil by a good fire, and stirring with a small skimmer,* and when the quantity of vapor rising from the surface of the sirup shall appear to diminish while the boiling continues, it is nearly boiled enough. It is still more advanced, if the liquor raised with the skimmer appears very sirupy; and finally, the boiling is sufficient when, by putting the end of the finger on the skimmer, the drop of sirup raised, being pressed with the thumb and forefinger, forms, when they are separated, a thread, which bends back as it breaks. The pan should instantly be removed from the fire, and all the sirup poured into a bucket well hooped, or lined with thin copper, or into a large caldron placed within a larger vessel, and the interval between the two filled up with linen cloth, or straw, in order to avoid the too sudden cooling of the sirup. The pan is again placed over the fire, and a second charge of sirup poured in, to be evaporated to the same degree as the first, and then mixed in the same vessel, called the cooler. And thus one boiling follows the other, until the products of four or five boilings have been mixed together in the cooler. We may then, after gently stirring the mass, fill one or several moulds, or the barrel, to crystallize it.

(To be continued.)

LIME—CUT-WORM—GRASS-SEED.

New-York, March 15, 1837.

It is a rare occurrence that I have ventured to record my agricultural experiments in the newspapers, although I think it a duty that we owe to each other, and not only to record them, but affix the name of the party making the experiment, that he may be referred to in case of need.

I have read recently much about the destruction caused by the cut-worm, and it brought to my recollection what happened to me about eighteen years ago, when I owned the reclaimed salt meadows, which are dyked, opposite to Newark, in New-Jersey. I wished to make an experiment on the efficacy of lime on that peculiar soil. I had previously satisfied myself as to its value on upland soil. These meadows were ditched in lots of about five acres. Early in the month of April I took a lot, had it well ploughed and harrowed, and sowed it with flax-seed, also with a mixture of timothy, red top or herds-grass, and red clover seeds. I directed a "land" or "bout" of eight paces wide and the whole length of the lot, in the middle of the field, to be limed, at the rate of about 100 bushels of slaked Barnegat lime to the acre, as near as might be. That year, for the first time, I found my meadows infested with the cut-worm, and in every part of the lot, *except where the lime was put*, the roots of the flax were eat off and destroyed, and the roots of the grass seed very much injured, but not entirely destroyed. Where the lime was thrown there was not only good flax, but the grass seed came up and flourished; the color of the grass was a very rich deep green, and it could be distinguished from the other part of the lot, as far as the eye could discern the field.

Afterwards, during that year and the following years, when the horses, mules, horned cattle and sheep, were turned to feed on that lot, you would see them confined to that space where the lime was put, as long as anything remained there to be eaten. The experiment having satisfied me, I made after that year free use of lime on those meadows, and have seen, at the end of twelve years, the beneficial results of its application. My lands have never since the application of lime to them been infested with the cut-worm.

I have known many persons declare, that lime was of no use to their farms; but on questioning them as to the *mode* and *extent* of the application, I found they were entirely ignorant of the manner it should be applied. I believe lime judiciously applied will benefit any soil. You may apply *too much* in the first instance, as well as too little. To a rich alluvial soil, like the reclaimed salt meadows I know that 100 bushels of lime to the acre, on the first application, is not too much, and I believe that 200 bushels would be better; but if on the first application you were

* If the sirup rises in foam, it is well to throw in a small lump of butter, which will cause it to subside immediately.

to put 100 bushels of lime to poor or worn out upland, I am persuaded it would injure the land for several years.

Hence, as the result of my experience, I would recommend that *worn out upland* should be ploughed deeper than in the ordinary tillage it had been—say from two to four inches deeper. Prepare the land for sowing the crop you intend to put in—say, if you please, oats or other small grain—sow your seed and harrow it once, then spread from 30 to 40 bushels of slaked lime, as near as may be, to the acre, and sow your grass seed, and then cross harrow the land. Many persons, I know, throw it on the ground after the crop is put in, leaving the rain to wash it into the land; but I prefer to harrow it once in. Afterwards, when you plough up the same land, and seed it down, you may apply from 60 to 100 bushels of lime, not only without injury, but with great benefit in the result; and if good husbandry is followed, lime to the extent of 200 to 300 bushels per acre may be applied afterwards, with great advantage. And my experience is, that in grass lands, the good effects of lime will be seen at the end of twelve years. I have applied many thousand bushels of lime to my land, and therefore have no hesitancy in recommending its general use, if judiciously applied.

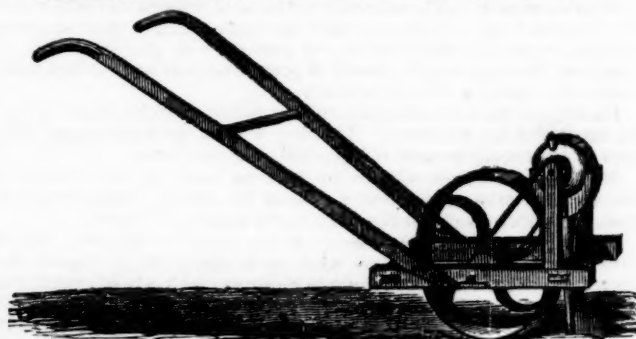
I think it advisable also to mention when the application of lime has appeared to be injurious, and leave others to make a further experiment; and therefore I state, that my Scotch farmer advised me not to sow wheat when I fresh limed my land, as it would smut the wheat. I replied to him, if it is beneficial to pickle your wheat and roll it in lime before sowing, to prevent smut, surely liming the land will not cause the smut. I disregarded his warning, and directed the application of lime on the wheat land—the following year my wheat was very much injured with smut. The philosophy of it I do not understand, but I took good care never to do so afterwards.

I have taken a course in relation to sowing grass seeds widely different from my neighbor farmers. I condemn the practice of putting a small quantity of seed, such as is usually put on an acre, because the seed when it comes up does not sufficiently cover the ground. You lose much in quantity of hay, and in its quality. My rule has been, whether on upland or low land, to mix well together my grass seeds—say herds grass, or red top, as it is sometimes called, timothy, and red clover—apply *one bushel of seed to the acre*, in equal portions of the different seeds. The consequence will be, that the seed comes up as thick as hair on a dog's back, the land is completely covered, and not injured by the rays of the sun after mowing in a dry season; the grass, instead of having large stalks and dry, are small and full of juice, and the hay not only increased in quantity, but is much more palatable to the animal.

All which I respectfully submit to the consideration of practical farmers.

A. DEY.

BEMENT'S IMPROVED TURNIP DRILL.—Fig. 7.



MR. BUEL.—SIR—I will ask the favor of a small space in one of your columns, for a cut, representing one of my "Improved Turnip Drills," the principle of which differs but very little from the one described in the fifth number of the third volume of the Cultivator. The improvement consists in substituting copper and block tin in the place of a tin cylinder—with large holes for mangold wurtzel, beets, and small peas—with a band which can be slipped over the large holes, in which are pierced two sizes of smaller holes, the larger size for onions, carrots, and other seeds of a round or oval shape, not larger than onion seed; by slipping the band, and placing the smallest sized holes over the larger, it is then prepared for ruta baga, and seeds of the same size.

The wheel by which it is impelled, serves the double purpose of covering and pressing the earth to the seed, thereby causing a much more rapid vegetation.

The objection to the former coulters, through which the seed dropped, is completely obviated in this—for the coulters and seed tube are separate, which renders it almost impossible to fill with earth.

Another advantage this has over the former, is, the coulters being in front of the wheel, gives it the advantage of running close to a fence or tree.

It is very substantial and durable—the wheel is of cast iron, 16 inches diameter and 4 inches broad.

They are for sale at Wm. Thorburn's Agricultural Warehouse, No. 317 N. Market-street, Albany—price \$10. C. N. BEMENT.

THEORY OF AGRICULTURE.

The theory of agriculture, which we lay down, is built upon the following fundamental principles; and with one or other of them every part of rural practice is more or less connected. *First*, That the soil ought to be kept dry; or, in other words, free of all superfluous moisture. *Secondly*, That it ought to be kept clean; or, in other words, free of noxious weeds. *Thirdly*, That it ought to be kept rich; or, in other words, that every particle of manure, which can be collected, ought to be applied, so that the soil may be kept in a state capable of yielding good crops. Every person, possessed of a sufficient capital stock, may act according to the first and second principles; but it is only where local circumstances are favorable, that the last can be carried completely into effect. No more, however, being required of the farmer, than that he shall make the most of his situation, the principle applies equally to all; and, in like manner, is equally correct and beneficial in all situations and circumstances.

Holding these principles in view, and assuming them as the basis of what is meant to be inculcated, we proceed to illustrate them in a more particular manner.

In the first place, the utility, nay, the necessity, of keeping land dry, and preserving it from being inundated or flooded with water, is so obvious, that few arguments will be required in support of this primary principle. When land is allowed to remain in a state of wetness, which may either be occasioned by spouts, or springs, in the under soil, or by rain-water stagnating on the surface, the earth gets into a sour state, which afterwards is detrimental to the growth of plants; and often, in the first instance, prevents either ploughing or harrowing from being successfully effected. Under such circumstances, the young plants, either of corn or grass, get yellow or sickly, and never assume that vigorous thriving aspect, which they maintain upon fields differently circumstanced. Besides, manure has not the same effect when the earth is drowned, or even injured with wetness, as when it is kept dry and free from superfluous moisture. Under-draining is the only method of correcting the evils arising from spouts, or springs, as will afterwards be more distinctly stated, and digging out the head-land, and what are provincially called *gau-furrows*, the only preventive against surface water, when heavy falls of rain or snow storms ensue. In fact, without attention to these important operations, arable land can neither be perfectly managed, nor full crops reaped. Perhaps, the goodness or badness of farm-management may be as correctly estimated by the attention shown to drainage, as by any other mark whatever. Where drainage is neglected, a sure proof is furnished, that many other branches of the art are imperfectly executed. Unless this branch of rural economy is assiduously attended to, the advantages arising from ploughing and manuring are only partially obtained.

In the second place, the benefit arising from keeping the land clean, is sufficiently discernible. Weeds, whether of the annual or perennial sorts, may be regarded as preferable creditors of the soil, who will reap the first advantage of manure, if allowed to remain in possession: their removal, therefore, forms an important object of the husbandman's attention.—Without detailing in this place, the most suitable means of removing them, it may be stated, that, according to the degree of success that follows the means employed, so will the goodness or badness of the husbandman's crops be regulated. If the strength, or nutritive powers, of the soil be exhausted or drawn forth by weeds, or such plants as the soil naturally produces, it is impossible that artificial plants can prosper. It rarely happens, to be sure, that the aborigines are altogether extirpated; but upon the smallness of the number depends the returns which the soil can make to man, for the labor bestowed upon its cultivation.

In the third place, the necessity of restoring to the soil, in the shape of manure, the powers drawn from it by artificial crops, is acknowledged by almost every person. No doubt, some heretical opinions have, at different times, been broached, concerning the utility of feeding land by generous manures; but these never had many votaries, and are now become so obsolete, that it would only be a waste of time to notice them. Manure, in fact, is the most powerful agent in the hands of the farmer, and the attention bestowed upon collecting, preparing, and applying it, constitutes an important branch of the art, which he practices. Perhaps agriculturists are more behind, in the points connected with this third general principle, than in the others; and here the utility of chemical knowledge may, in some respects, be estimated and recognised.

These three fundamental principles hang or fall together. Without laying land dry, neither the advantages of good ploughing, nor the benefits arising from manure, can be fully obtained. When any of the other principles are neglected, similar edicts will necessarily ensue. But when they are all acted upon; when the land is kept dry, clean, and in good heart, the husbandman may expect a suitable reward for the trouble and expense bestowed on its cultivation. An agricultural code of this kind is not only a true one, but has the particular merit of being simple and distinct; nay, it has an advantage which few creeds possess; it may be understood by the dullest capacity. Were it carried into execution; were

the operations of farmers regulated by its tenets; were their endeavors constantly directed to keep the lands in their possession dry and clean, and as rich as possible, then the country would be progressively improved. In a word, these are the fundamental principles of agriculture, though several other things, such as rotation of crops and the like, may be regarded as minor or inferior ones. All of them, however, are dependent upon the principles already noticed; because, were the fundamental principles rejected, the minor or inferior ones could never be successfully carried into execution.—*Brewster's Encyclopædia*.

Young Ladies' Department.

IMPORTANT REQUISITES IN A WIFE.

A knowledge of domestic duties is beyond all price to a woman. Every one of our sex ought to know how to sew, and knit, and mend, and cook, and superintend a household. In every situation of life, high or low, this sort of knowledge is of great advantage. There is no necessity that the gaining of such information should interfere with intellectual acquirement, or even elegant accomplishment. A well regulated mind can find time to attend to all. When a girl is nine or ten years old, she should be accustomed to take some regular share in household duties, and to feel responsible for the manner in which her part is performed—such as her own mending, washing the cups and putting them in place, cleaning silver, or dusting and arranging the parlour. This should not be done occasionally, and neglected when ever she finds it convenient—she should consider it her department. When older than twelve, girls should begin to take turns in superintending the household—making puddings, pies, cake, &c. To learn effectually—they should actually do these things themselves, and stand by, and see others do them.—*Mrs. Child*.

Many a husband has been ruined for want of these domestic qualities in a wife—and many a husband has been saved from ruin by his wife being able to manage well the household concerns.

A HEALTHFUL RECREATION.

Among the pleasant employments which seem peculiarly congenial to our sex, the culture of flowers stands conspicuous. The general superintendence of a garden has been repeatedly found favorable to health, by leading to frequent exercise in the open air, and that communing with nature which is equally refreshing to the heart. It was laboring with her own hands in her garden, that the mother of Washington was found by the youthful Marquis La Fayette, when he sought her blessing as he was about to commit himself to the ocean, and return to his native clime. The tending of flowers has ever appeared to me a fitting care for the young and beautiful. They then dwell, as it were, among their own emblems, and many a voice of wisdom breathes on the ear from those brief blossoms, to which they apportion the dew and the sun-beam.—*Mrs. Sig. urney*.

INTEMPERANCE IN DRESS.

Greater numbers annually die among the female sex, in consequence of tight lacing, than are destroyed among the other sex by the use of spirituous liquors, in the same time.—*Dr. Mussey on Intemperance*.

Whatever tends to diminish the capacity of the chest, tends also to produce organic disease of the *heart* and *lungs*. Tight lacing is ever a dangerous practice, for if the heart does not suffer, the lungs and liver very frequently do.—*The Influence of Mental Culture, &c*.

Mrs. Sigourney lays down the following rules as to dress:

1. Not to permit *fashion* to impair health.
2. Dress should never infringe on *delicacy*.
3. Dress ought not to involve *unnecessary expense*.

A fundamental error in domestic life, of very serious extent, involving no less the comfort than the health of the family, arises from the ignorance or mistaken notions of the mistress of the house, upon the subjects of diet and cooking.—*Housekeeper's Register*.

PRICE CURRENT.

ARTICLES.	N. York. March 24.	Boston. March 20.	Philadel. March 24.	Baltimore. March 18.
Beans white, bush.....	1 25.. 1 50	2 50.. 3 00	1 80.. 2 00	1 75
Beef, best, cwt.....	7 00.. 9 00	7 50.. 9 00	7 00.. 9 50	6 50.. 8 50
Pork, per cwt.....	9 00.. 11 00	10 00.. 13 00	11 50.. 13 77	11 50.. 13 77
Butter, fresh, pound,	21.. 26	21.. 25	16.. 18	25.. 37
Cheese, pound,	8.. 10	10.. 12	10.. 12	12.. 14
Flour, best, bbl.....	11 00.. 11 75	12 25.. 12 50	10 50.. 10 13 0	10 50.. 10 13 0
GRAIN—Wheat, bushel, ..	1 75.. 2 00	2 12.. 2 25	1 80.. 2 10	2 00.. 2 25
Rye, do. ..	1 13	1 15.. 1 20	1 40.. 1 50	1 35.. 1 40
Oats, do. ..	50.. 62	65.. 70	49.. 53	62.. 65
Corn, do. ..	1 01	1 18.. 2 07	90.. 97	85.. 91
SEEDS—Red Clover, lb.	14.. 15	16.. 17	9.. 11	13.. 14
Timothy, bushel, ..	2 50.. 2 75	3 25.. 3 37	2 50.. 3 25	3 25.. 4 00
WOOL—Saxony, fleece, lb.	70.. 75	70.. 75	66.. 73	55.. 60
Merino, lb.....	55.. 68	60.. 70	58.. 62	45.. 50
1-4 and com. lb.	45.. 50	45.. 50	40.. 44	36.. 40
Sheep,	6 00.. 7 00
Cows and Calves,	18 00.. 25 00	23 00.. 42 50	25 00.. 50 0

THE CULTIVATOR.

RECEIPTS, from Feb. 21 to March 22, inclusive.—Nos. under ten not noticed.

Alexander, Gen.	11 E. Bloomfield, Ont.	11 Laurel,	Pittsburgh,	10 Sing Sing, West.	22 Virgil, Cort.
Appling, Jeff.	11 Elkhart,	11 Lewes,	Pomfret,	11 Sennett, Cay.	11 Vernon Centre, On.
Auburn, Cay.	22 E. Fairfield,	26 Lebanon,	Pittsfield,	11 So. Kortright, Del.	11 Vincennes, Ia.
Ames, Mont.	40 E. Rutland,	22 Lawrenceville,	Pontego,	50 Sullivan, Mad.	11 Vermillionville, Ill.
Abington,	22 Enfield,	11 Lanark,	Princeton,	11 Salem,	11 Westfield, Chaut.
Athens,	11 Easton,	11 Lewiston,	Queenston,	11 Sharon,	11 Wheatland, Mon.
Augusta,	N.J. 17 East Bethel,	11 Lovingson,	Quincy,	11 Salisbury,	11 Warren, Herk.
Alexandria,	N.C. 33 Exeter,	11 Lynchburgh,	Rushville, Ont.	11 Stonington,	11 W. Mendon, Mon.
Alexandria,	D.C. 22 Elkland,	11 Loretto,	Richfield, Ot.	11 Suffield,	11 Whalen's Store, Sar.
Ashtabula,	O. 19 E. Long Meadow,	11 Langhorns' tav.	Rome, On.	11 Savannah,	11 Westmoreland, On.
Aldie,	Va. 40 Freehold, Gr.	23 Lee,	Rock city, Dut.	11 Shrewsbury,	11 W. Sand Lake, Rens.
Annapolis,	Md. 73 Factoryville, Tio.	11 Leicester,	Rosendale, Ul.	11 Suckasunny,	11 Winchester centre, Ct.
Bainbridge, Chen.	11 Flushing, Dut.	34 Laurel Factory,	Redfield, Ot.	11 St. Albans,	11 W. Thompson,
Butternuts, Ot.	22 Fulton, Os.	33 Leonardstown,	*Richmond,	11 Salem,	11 W. Hartford,
Brantingham, Lewis,	11 Franklin, Del.	23 Liberty,	Rapid Ann,	11 Stoney Point Mills,	11 Watertown,
Broadalbin, Mont.	44 Front Royal,	24 Mayville, Chaut.	Rock Hill,	11 Stonewall Mills,	11 Wilton,
Buskirk's bridge, Wash.	18 Frankfort,	11 Marshall, On.	Randolph,	11 Suffolk,	11 Westminster,
*Berlin, Rens.	16 Factoryville,	11 Mereduth, Del.	Rockville,	11 St. Ingoes,	11 Whitestone, Va.
Butterfly, Ot.	33 Greenwich, Wash.	11 Mentz, Cay.	Rahway,	11 So. Egremont,	11 Wellsburg,
Borodino, Onon.	11 Grovesville, Mont.	11 Maltaville, Sar.	Schenectady, Sch.	11 Sheffield,	11 Westminister,
Brookfield, Mad.	22 Gorham, Ont.	22 Magnolia, Chaut.	South Branch, All.	11 Sandersfield,	11 Westford, Vt.
Bruynswick, Ul.	22 Goshen, Or.	11 Mid. Granville, Wash.	Sidney, Del.	11 St. Georges,	11 West Alburgh,
Bloomfield, Or.	22 Greigsville, Liv.	15 Mauch Chunk, Pa.	Sherburn, Chen.	11 Smyrna,	11 Woodstock, N.J.
Baltimore,	Md. 36 Greenville, Gr.	18 Milton,	Salisbury Mills, Or.	11 St. Michaels,	11 Woodville, N.H.
Bardtown,	Ky. 11 Garrettville, Ot.	11 Murfreesburgh, Ten.	Stockholm, St. Law.	11 St. Josephs,	11 Westmoreland, D.C.
Brookfield,	Pa. 22 Glenn's Falls, War.	11 Mendham,	Sherman, Chaut.	11 Sylvan,	11 West Point, Ia.
Birdsfield,	11 Gaines, Orl.	11 Morgan,	Springfield, Ot.	11 Spring Arbor,	11 Winchester, Ten.
Buckingham c. h. Va.	22 Geneva,	11 Muskingum,	Salem, Wash.	11 Troy, Rens.	11 Westfield, Mich.
Boston,	Mass. 33 Gallipolis,	11 Michawaka,	Stuyvesant, Col.	20 Trenton Falls, On.	11 Williamsburgh, Vt.
Bernardstown,	18 Greensboro,	11 Milwood,	Smithtown, Suf.	14 Tomhannock, Rens.	11 Williamstett, Mich.
Bridgeport,	Ct. 11 Georgia,	11 Montpelier,	Stamford, Del.	20 Truxton, Cort.	11 York, Liv.
Barnard,	Vt. 27 Glasgow,	11 Mayfield,	Stokes, On.	14 Tyre, Sen.	11 Zelinople, Pa.
Bridgewater,	N.J. 22 Goshen,	11 Mansfield centre, Ct.	Sangerfield, On.	33 Tyngsborough,	11 Total subscriptions rec'd
Byberry,	11 Greenwich,	11 Manchester, Va.	Salisbury, Herk.	11 Trappe,	11 during 30 days, 8,214.
Bevans,	11 Hartford, Wash.	11 Middlefield, Ky.	Speedville, Tomp.	11 Tecumseh,	
Clyde, Wayne,	33 Glade Spring, Mass.	12 Medford, Mass.	So. Bainbridge, Che.	11 Terre Haute,	
Catharines, Chen.	22 Granby,	11 Milford, Del.	Spraker's Basin, Mont.	11 Ulsterville, Ul.	
Cooperstown, Ot.	11 Hartford, Wash.	11 Marshall, Mich.	Salisbury centre, Herk.	11 Upper Marlboro, Md.	
Charlotte, Mon.	11 Hempstead, Qu.	11 New-York city, N.Y.	Summer Hill, Cay.	11 Unadilla Forks, Ot.	
*Coxsackie, Gr.	15 Hopewell, Ont.	11 New-Hartford, On.			
Canterbury, Or.	11 Huntington, Suff.	11 Norwich, Chen.			
Conesus, Liv.	11 Holland Patent, On.	11 New-Haven, Osw.			
Crawford, Or.	11 Hall's Corners, Ont.	11 New-Berlin, Chen.			
Catskill, Gr.	24 Havanna, Chem.	11 New-Paltz, Ul.			
Champion, Jeff.	11 Hamilton, Mad.	11 Newark Valley, Tio.			
Cobleskill, Scho.	17 Hyndsville, Scho.	11 Newbern, Va.			
Charleston, Mont.	24 Hickory Corners, Nia.	11 Newmarket, N.J.			
Clifton Park, Sar.	15 Hannibal, Os.	11 Newton, N.J.			
Collinsville, Liv.	11 Hartford, Ky.	11 New-Berlin, Chen.			
Cowneck, Qu.	11 Hope, N.J.	11 New-Paltz, Ul.			
Charlton, Sar.	15 Hockensack, N.J.	11 Newbern, Va.			
Canton, St. Law.	11 Harbor Creek, Pa.	11 Newmarket, N.J.			
Cherry-Valley, Ot.	12 Hicks' Ferry, Ark.	11 Newton, N.J.			
Coventry, Chen.	18 Hagerstown, Md.	11 New-Berlin, Chen.			
Caledonia, Mon.	11 Hillsborough, O.	11 New-Berlin, Chen.			
Cleveland, Os.	11 Howard, Mass.	11 New-Berlin, Chen.			
Columbus, Chen.	11 Hadley Up. Mills, N.J.	11 New-Berlin, Chen.			
Coldbrook, Herk.	12 Hatfield, N.J.	11 New-Berlin, Chen.			
Cinnaminson,	33 Hadlyme, N.J.	11 New-Berlin, Chen.			
Crosswick,	11 Islip, Suff.	11 New-Berlin, Chen.			
Crawfordsville,	11 Ithaca, Tomp.	11 New-Berlin, Chen.			
Camden,	49 Junius, Sen.	11 New-Berlin, Chen.			
*Castleton,	11 Johnsbury, War.	11 New-Berlin, Chen.			
Cannelsville,	11 Jersey, Steub.	11 New-Berlin, Chen.			
Concordville,	11 Jennings' Ordinary, Va.	11 New-Berlin, Chen.			
Canton,	11 Johnson's Springs, Va.	11 New-Berlin, Chen.			
Clear Spring,	22 Johnsonburgh, N.J.	11 New-Berlin, Chen.			
Cecilton,	11 Kinderhook, Col.	11 New-Berlin, Chen.			
Comstock,	14 King's Ferry, Cay.	11 New-Berlin, Chen.			
Charleston,	11 Kelloggville, O.	11 New-Berlin, Chen.			
Conrad's store,	11 King George c. h. Va.	11 New-Berlin, Chen.			
Christiansburgh,	13 Kendallville, Ia.	11 New-Berlin, Chen.			
Crowder's creek, N.C.	11 Larned's Corners, Ont.	11 New-Berlin, Chen.			
Colerain,	11 Lafayette, Onon.	11 New-Berlin, Chen.			
Carrollton,	13 Lower R. Hook, Dut.	11 New-Berlin, Chen.			
Centre Montville, Me.	16 Lagrange, Gen.	11 New-Berlin, Chen.			
Chelsea,	27 Lyons, Wayne,	11 New-Berlin, Chen.			
De Witt, Onon.	13 Lasselsville, Mont.	11 New-Berlin, Chen.			
Delhi, Del.	51 Lebanon, Mad.	11 New-Berlin, Chen.			
*Duaneburgh, Schen.	11 Lansingburgh, Rens.	11 New-Berlin, Chen.			
Durham, Gr.	11 Luzern, War.	11 New-Berlin, Chen.			
Dalton,	11 Lewis, Essex,	11 New-Berlin, Chen.			
Deerfield,	11 Laurens, Ot.	11 New-Berlin, Chen.			
Dunbury,	11 Leedsville, Dutch.	11 New-Berlin, Chen.			
Dryton,	11 Leeds, Gr.	11 New-Berlin, Chen.			
Earlville, Mad.	22 Le Roy, Gen.	11 New-Berlin, Chen.			
E. Hamburg, Erie,		11 New-Berlin, Chen.			
E. Pembroke, Gen.		11 New-Berlin, Chen.			
Ellisburgh, Jeff.		11 New-Berlin, Chen.			
E. Groveland, Liv.		11 New-Berlin, Chen.			

LIST OF AGENTS.

We are daily urged to publish the names of Agents, to facilitate the transmission of subscription monies for the Cultivator. In consequence of our general invitation, a great number of post-masters, as well as other gentlemen, who have felt an interest in the diffusion of agricultural information, have voluntarily become agents. To give all their names would occupy too much room. In our last, we gave the names of several, and we now add to the number, who will receive subscriptions, free of charge, for the Cultivator; and we may hereafter add to the list. We name no agents in this state, as yet, inasmuch as the post-masters, generally, have kindly volunteered their services.

J. Stearns, p. m. Passumpsic, Vermont.	B. I. Simmas, Piscataway, Maryland.
Hon. W. Hall, Rutland, ..	J. Spaulding, p. m. Leonardstown, ..
J. M. Olin, Shaftsbury, ..	T. Auld, St. Michaels, ..
P. Knight, p. m. Newbury, ..	C. P. Estis, Livingston, ..
J. Smith, Barnard, ..	C. G. Nelson, Milwau, ..
U. F. Palmer, St. Albans, ..	T. M. Carty, p. m. Wellsburg, ..
Hon. G. Walker, Lenox, Massachusetts	J. A. Price, Huntsville, ..
C. Williams, p. m. Deerfield, ..	H. Leadbetter, p. m. Montpelier, ..
A. Morgan, p. m. Springfield, ..	R. B. Shaw, p. m. Buckingham c. h., ..
J. Shepherd, p. m. Northampton, ..	F. Flore, Charleston, ..
T. Colt, Pittsfield, ..	J. S. Spengler, Port Royal, ..
H. Cooley, West Springfield, ..	E. Valentine, p. m. Johnson's Springs, ..
L. Smith, Westfield, ..	C. Aunsbaugh, Fineastle, ..
G. Ryther, Barnardstown, ..	Geo. Richards, Leesburgh, ..
S. Benedict, jr. p. m. Norwalk, Connecticut.	R. D. Alexander, p. m. Alexandria, N.C.
H. Brown, p. m. Sharon, ..	L. Wilson, p. m. Crowder's Creek, ..
W. C. Woodbridge, Stonington, ..	P. Crowell, Savannah, Georgia.
J. Whitman, p. m. West Hartford, ..	W. N. Morrison, Alexandria, D. C.
B. Baldwin, p. m. Goshen, ..	R. D. Lilly, Hillsborough, Ohio.
J. D. Meers, Naugatuck, ..	F. Seaberry, Gallipolis, ..
W. Spencer, Hadlyme, ..	R. Ewing, East Fairfield, ..
C. Benham, p. m. Salisbury, ..	M. Hubbard, p. m. Ashtabula, ..
R. Gillingham, Cinnaminson, New Jersey.	John Paine, Morgan, ..
N. Lloyd, jr. Freehold, ..	J. Goldsborough, p. m. Salem, ..
R. A. Leonard, Middletown, ..	E. Mills, p. m. Geneva, ..
G. H. M'Carty, p. m. Newton, ..	T. G. Smith, p. m. Glasgow, Kentucky.
J. Blair, Marksborough, ..	M. Miller, Rock Hill, ..
W. Myer, p. m. New Brunswick, ..	J. Allen, Bloomfield, ..
J. Dickerson, p. m. Camden, ..	R. Walker, p. m. Hartford, ..
R. Byington, Johnsonsburgh, ..	G. W. Fournau, Flemingsburgh, ..
J. Thornton, Byberry, ..	H. C. Carr, St. Louis, Missouri.
Ben. Shepherd, Greenwich, ..	M. Morris, Spilanti, Michigan.
F. Cook, Hope, ..	J. Enos, St. Josephs, ..
J. Koller, p. m. Shrewsbury, Pennsylvania	J. J. Putkin, Quincy, Illinois.
S. Lippincott, Mauch Chunk, ..	J. M. Gay, Princeton, Indiana.
C. C. Beatty, Abington, ..	J. M'Culloch, Liberty, ..
R. Diller, New-Holland, ..	J. Farrington, Terre Haute, ..
J. Anderson, Port Deposit, Maryland.	T. Leet, Montreal, Lower Canada.
H. M. Fitzhugh, Baltimore, ..	H. J. L. Rodney, Lewes, Delaware.
J. S. Stevenson, Newtown, ..	S. Dickson, p. m. Camden, ..
A. Bateman, p. m. Port Tobacco, ..	W. Estill, p. m. Winchester, Tennessee.
H. Thomas, Easton, ..	J. Wendell, Murfreesburgh, ..
R. Wilson, Clear Spring, ..	J. Hall, p. m. Lanark, Upper Canada.
J. C. Brvan, p. m. Queenston, ..	J. B. Anthony, Hicks' Ferry, Arkansas.
J. W. Ward, Govanstown, ..	J. B. Elliott, Keene, New-Hampshire.
J. M'Cormick, Brockton, ..	J. Bellows, p. m. Walpole, ..
W. H. Johnston, Princes Ann, ..	J. Hean, p. m. Centre Montville, Maine.
	P. Carter, East Bethel, ..